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ORIGINAL ARTICLES.

SENSATION, PHYSIOLOGICAL AND PATHOLOGICAL.*

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Man, God's most sublime marvel of understanding, is liberally endowed with inlets for stimuli to be conducted through the agency of molecular motion and vital force to his superior faculty of thinking. Impulses thus received stir up sensations which awaken our psychical operations. Perhaps a glance at their utility will exhibit the supreme importance of them. All of our acquaintance with the outside world, all of the accessible on a level with our capacities, all of the known this side of the end of human knowledge, rests upon sensation, physical, emotional (or may be latent, which when called into use goes by the name of reflex perception), for a basis. Its latitude is much broader than is usually supposed. To pass out of its circlet is to enter fairyland, a region of mists and shadows where even genius will grope her way in intellectual darkness striving to know the unknowable.

Between the alpha and omega of sensibility an ample compass is found for the broad range of thoughts' excursions. Imagination swings on its pivot and to be trustworthy must be consistent with its experiences—must point to the north, so to speak, the variation excepted. To go a step further, I believe as Condillac maintained, that the power of modifying conceptions itself is only a way of impressing

the mind through the gateway of sensation. Certain it is that the organs bringing us in contact with the external world have much to do with the curious phenomena of the evolutions of the mental operations. Nerve currents, let us remember, play an important rôle in our psychic existence. Be it noted that sensations are not the property of corporeal systems, gentlemen, but are the mental responses of nervous action and belong to psychology. Without nerve fibers conveying impressions to and from the brain centers, this organ would be plunged deep into the arms of Morpheus with no functional existence. So, too, the in-carrying and out-carrying fibers, separate and apart from nerve cells, would be only neural strings without utility. It is by their mutual workings that man obtains this great functional activity of the most wonderful portion of his being—the nervous system. Like Chang and Eng, it is by their union that we always find them side by side.

Sensation dwells in the brain and depends upon it for existence. The end organs are merely instruments, for the eyes do not see, the ears do not hear, nor the fingers do not feel. Cut off the nerve fibers carrying messages from any organ to the brain and sensation of this organ is at an end thereafter. The histological construction and physiological action of the nerves conveying the impulses

*A paper read before the Northwestern Ohio Medical Association, December 13, 1894.

of sight, hearing, taste, touch and smell to the central nervous system do not differ in the smallest degree. The elements as elements are the same so far as now known. It is because the end organs of the optic, the auditory and the olfactory nerves differ that we have sight, hearing and smell respectively. Any centripetal nerve of special sense could as well carry in messages for any other sense organ as its own. Professor James has told us that "if we could splice the outer extremity of our optic nerves to our ears and that of our auditory nerves to our eyes, we should hear the lightning and see the thunder."

From the threshold or liminal intensity of excitation to that point beyond which additional stimulation fails to bring forth any noticeable augmentation in the mental impression, the effect hangs on the active power of that which arouses the vital energies and upon the degree of excitability. The ratio of the former to the latter varies with each sense organ. When the excitant is too intense the organ refuses to respond, but moderate use increases the acuteness of sensation. The mariner beholds a ship in the sensible horizon which is imperceptible to the landsman's sight. The microscopist and the astronomer learn to what extent one organ of sight will by practice surpass its fellow. It is instructive to civilization to know that the red man, by placing his ear to the earth's surface, can locate a moving herd of buffaloes miles distant or know the tread of a troop of cavalry. The accomplished musician has a capacity for receiving sounds and discriminating limits of pitch by far out of reach of the unskilled ear. He has a niceness of perception of harmonies and discords which is not found in the inexperienced artist. So the watchmaker acquires a nicety of touch of which the blacksmith forms no conception. And, too, the water-drinking Hindoo discovers a difference of savor in the waters of different springs which are alike insipid to the man who seldom drinks water. As a scientific study, the much-neglected sense of smell is receiving attention to-day, and D. McFarland Moore is of the opinion that in the near future the mind will be as much enchanted by a symposium of symphony in scents as by a symphony of sounds. Cut off smell and sight and the gustatory qualities will to a great extent go with them. After dining in a resplendent hall

in the company of beautiful and accomplished ladies, in an atmosphere impregnated with fragrant odors, amid the harmony of soft and enchanting music, we are easily convinced that taste has been crowned and heightened by contributions from smell and sight. There is philosophy in compressing the alæ of the nose and closing the eyes when nauseating remedies are swallowed and in not doing so to obtain the deliciousness of delicacies.

Every individual educates and disciplines one organ of sense so that it becomes more perfect than the others. But, however, it is in those cases wherein a certain one has become permanently destroyed or never existed at all that we learn to how great a degree the others may be cultivated and improved so as to make good the deficiency. In fact, he who has a special sense shut is not the object of commiseration that he is usually held to be. Unaccountable feelings tell the blind that they are near a tree, high or low; in close proximity to a building, large or small; not far distant from a fence, open or solid; yea, a multitude of other things even more marvelous. The deaf, by giving careful attention to the movements of the lips and by observing numerous smaller motions of the features which are unnoticed by others, may be enabled to obtain a degree of knowledge, not of what is said, but of what the speaker means to say. The acuteness and accuracy of the sense of smell possessed by the oft-quoted Julia Brace, a blind and deaf mute, brought forth results beyond doubt surpassing the possibilities of the bloodhound's olfactory terminations.

In the rounding quarter of the eighteenth century it was considered the axiom of psychology that the senses should not be depended upon because of the mental deception of these five lenses by means of which we know or know not of the material world. In perceiving material objects the mind cannot be mistaken in any considerable degree, except by some natural or acquired defect in the bodily organs. How different—how very different it is in arranging the various relations and properties of objects and in that reflex action of the mind upon itself by means of which it is enabled to look back on its internal stored knowledge; for here imagination, attention, memory, as well as the corporeal organs, go to make up

the etiology of mental errors. It is only uttering a truth to say that these deviations from the direct course are not confined to the mentally deranged, but exist equally among men of the most healthy minds through mistaken judgments formed concerning the testimony of the witnesses of perception, yet here reason dissipates them. Many times reports of impressions are not correctly received.

The normal eye always exaggerates acute angles and underestimates obtuse ones. This is nicely shown by Zollner's lines. The phenomena of irradiation pictures to us dark objects smaller than light ones of the same size. You all, no doubt, have observed that the moon when in opposition appears smaller than when in conjunction, and that its crescent never seems to belong to the adjoining disk. Unwise would be the architect who would so design a column as to unsymmetrically divide an arch and thus bring out nature's illusion of discontinuity. It is because the visual effort required to see a horizontal line is not so great as that necessary to see a vertical line that the former looks shorter than the latter of same length. This optical illusion is taken advantage of by the mantua-maker, the artist, the paper-hanger and the furnisher.

There is a strong tendency in man to see that which he desires to see. If this were not so, how could the fake medium succeed? It is indeed a very prolific source of error. We know how an interested witness not far distant, anxious to have the criminal detected, erred with reference to the identity of the suspected person, and how this same witness was quick to soon afterward positively identify another who showed no strong marks of resemblance to the former one. These mistakes are not infrequent and do not especially reflect upon the honest witness, but are what make criminal courts slow to take at face value the testimony of an interested party. They show that judgments concerning the testimony of sensation are not to be too much depended upon.

In every perceptive act the mental element is an important one. The mind often refers pain to the site formerly occupied by an amputated member. A fixed attention seldom fails to cause us to misjudge the location, maybe the direction, of sound. It is unnecessary to here dilate upon the illusions of movement experi-

enced at the beach or at the railroad station. A former patient of mine maintained that he could perceive the rapid whirl of the globe upon its axis. A few similar cases have been recorded. Although such would be only the perception of an actuality, yet it could be due only to blotted brains.

Without doubt ideas have other sources beyond the end organs, because we gain knowledge of hunger, thirst and other bodily needs, of disease and of danger by means of organic and intellectual sensations, and experience enables us to locate them. Stimulation may occur, too, from mechanical jars of the central nervous organ and from changes in the quality and quantity of its blood supply. Before the youth becomes skillful in skating he realizes that stars may be seen subjectively, without any excitation being conveyed to the eye from without. The same effect takes place when we snuff some volatile salts. While this is all true, yet the plaintiff's claim at a trial of unusual interest in Germany that on a very dark night illumination from these sudden bursts of light of internal origin, caused by blow after blow upon the head, enabled him to see the face of his would-be assassin plainly, was refuted by all scientific evidence. These retinal flashes have not the power of imparting light to external objects. Subjective impressions frequently arise from the nervous apparatus being stimulated by internal somatic causes.

Knowing all this, does it seem strange to say that anatomy and physiology have prepared a fertile soil for pathology here as well as elsewhere? Pathological exaltation of organic action of the psychosensorial cortical centers may produce the highest degree of false perceptions characterized as hallucinations, while those changes or modifications by the sensorium of sensations actually arising from outward excitation are mistaken perceptions known as illusions. The former seldom occur except pathologically; the latter are common in all mental conditions. Certainly here is ample range for novel observations. From the beginning of mankind down to the present moment, both the former and the latter have held a great sway in the world's history. Their character is of the highest importance, furnishing a key to the singularities and eccentricities of the former individual

himself. He who hears a voice announcing his wealth or rank only may be quite harmless, but the one who receives commands to commit acts of violence toward himself or others requires careful watching or restraint.

Nothing could be more incorrect than the statement of an author in his new work that false perceptions of more than one sense are rarely present in the same individual. In fact, it is hardly the rule for a single sense alone to be thus affected. In sanity, those of sight are more frequent than any other sense; in insanity, those of hearing, because its center is in closer proximity to the intellectual region than that of sight. The relative position of the area affected is the pathological indicator directed to the extent of impairment of reason's faculties. Numerous are the cases where unhealthy states of the organs producing morbid sensation form the basis of false beliefs of the insane. Their genesis is sometimes due, too, to the blood supply being altered, thus affecting the brain molecules. Hallucinations may be seen with one eye or heard with one ear only. An animated dialogue is sometimes sustained with all the force of reality. Sometimes these sensations occurring entirely within the patient's own head are corrected by the testimony of others, but more often they are not. Here lies one of the greatest principles of treatment. A preponderance of certain health perceptions *can*, and if properly utilized *will*, contradict and overcome that which results from disease.

The sensorial organs may be so powerfully influenced by a dream as to leave the sensation of the impression on awakening, but they leave us rapidly, while in the insane they are not thus dissipated. Visual impressions are readily stored up by all of us. Were this not possible, Milton when blind could not have written a poem composed so largely of this imagery as "Paradise Lost;" nay, that branch of natural science calling for the most careful observation and the keenest eyesight could not have been mastered by Huber, who was blind from his seventeenth year. Behold a lunatic with his eyes open and his sight closed, or one with his ears open but his hearing shut, whose sensory ganglion was so forcibly struck from experiences before the special sense was closed that a shadow becomes a reality, and then you can realize that internal excitation is capable of re-

producing sensations in consciousness without the agency of the end organs; for hallucinations of sight occur as readily in the blind, of hearing in the deaf, and so on, as when the end organs perform their work. To draw from my own experiences, a blind lunatic was firmly convinced that he could see gold nails on his fingers and beautiful flowers adorning the room; a deaf one that he received telephonic revelations from heaven inspiring him to convert the world. How else can such curious phenomena be explained except that sensations are laid up in memory as ideas reproducible in consciousness without the aid of the mind's special messengers? A linguist who is mentally deranged may hear voices in different languages.

In health and in disease the central nervous organ is excited from within almost as frequently as from without. From the fact that hallucinations of sight take place in the blind and when the optic nerve is atrophied, we learn that the retina is not the seat of false visual images as it is of mistaken and perverted ones; therefore the pathological character of illusions and hallucinations differs. Closing the eyes will of course dispel the former, but seldom the latter. To not believe false beliefs is to repudiate the testimony of the witnesses of perception, for many times they are real sensations forming channels through which reason flows. Until the basis is corrected the chain of reasoning cannot be changed by legerdemain or otherwise, so that trick and artifice, once so popular in the treatment, have been relegated into disuse. Even objective reality often fails in influencing perverted or false sensation. Until the foundation is made aright, the reason will remain unchanged.

Not only are painful sensations common among the insane, but also tactile hallucinations and even delusions of physical transformation are not uncommon. One whom I vividly recall fancied that he had become petrified; another that his body had been metamorphosed into that of a wolf; and still another that all his bones had changed into flesh. Morbid sensation was surely responsible for the false idea in each case. Many are the fantastic transformations which objects out of the brain may undergo. Sensations which cause the sufferer to declare that insects are crawling on the skin or destroying

some vital organ sometimes occur. These peculiar conditions causing discomfort in this or that part of the body are often the outcome of lesion of the organ. When the morbid feeling subsides the morbid thought usually vanishes.

Inasmuch as these sensations are strange, mysterious and unaccountable, patients likewise fly to the same sources for the causes thereof. The fashion of the age has much to do with the causes assigned for the sad state by those affected. In times gone by lunar vicissitudes, eclipses, comets, devils and witches were to blame; so said the people—those affected and those not affected. At the present day we all know what morbid sensation has to do with them, yet the afflicted seem to think they are due to electricity, hypnotism, etc. Pathological sensation is always shaped by the stores of knowledge, the education and the experiences of the individual, therefore continually keeps pace with the advance of the times.

By being familiar with the importance and significance of morbid sensation, the family practitioner would frequently be enabled to ward off impending insanity at its onset. Just at this time, when man is as near sanity as insanity, the senses begin to wander and morbidly deceive because of an incredible acuteness or intenseness in sensation, and great ends may be reached. Just at this time most can be accomplished by the agents of *materia medica* and by moral suasion exercised by man over man. The therapeutical treatment of these conditions is an extensive and important subject—one which cannot be dealt with here. Its area is found to be spread over a large portion of the area of *materia medica*. To lay down a broad rule, medicines have no special action of their own in these affections—they do not operate peculiar to the peculiarities, but are called for in general to restore corporeal derangement and are to be used under the same conditions and for the same purposes as in general medicine. They cannot be taken up separately in this connection, as this subject alone would require a volume for its successful exposition; therefore will be passed by as a whole.

Allow me to now swing to the science of the human mind—to its physiology, where the effects of mental attention on the bodily organs at once appear. An intimate inter-relation surely obtains between

mind and sensation. The latter cannot be studied apart from the former, amid which it invariably takes place. On the other hand, all functions of the mind are followed by sensibility of some sort or other. Thus you see a reciprocal relation exists—each is affected and influenced by the other. Morbid states of sensibility are concrete diseases affecting the mental operations with coexistent disorder of the sense organs. Without touching upon any abstruse points of metaphysical inquiry, physiological experiments have proved that the activity of a region, organ or part depends greatly upon the blood supply to it. It is in conformity with a general law that the effects of habitual repetition of stimulated attention to particular organs or parts of the body alters the supply of blood to them, creates unusual sensations in them and in time deranges their functional state. There is no difficulty in generating local sensations by merely seeking for them and expecting their occurrence. It is as much the duty of our profession to remove distress occasioned by subjective painful sensation as to cure real morbid states of organic structure. This may be accomplished by passing beyond *materia medica* and utilizing mental agents on the bodily functions, for they cannot be safely disregarded in the preservation or restoration of health.

It is too true that we prefer to see our fellow-man in distress and misery rather than to cure him of his affection except by means of powder, potion or pill. We are moving slowly but surely to the patient's mind itself for the basis of treatment of morbid nervous troubles occasioning pathological sensation. Mental philosophy itself calls for the cultivation of the reflection, the training of the observation and the governing of the thoughts in their treatment. While but little advantage could ever come from attempting to prove the falsity of morbid sensation in any form, yet irreparable damage results from admitting it to be true. In the charming pages of quaint old Burton is found the somewhat remarkable statement that "if they say they have swallowed frogs or a snake, by all means grant it and tell them you can easily cure it." The fallacy of dealing with pathological feelings by such procedure was completely exposed long ago.

It is a hard fact to admit, but neverthe-

less true, that the charlatan can sometimes actually cure hypochondriasis, neurasthenia, hydrophobia, hysteria, some forms of incipient insanity and other real diseases after the scientific physician has called into use his most potent remedies. Now if the empiric can really effect such cures, what could not be accomplished if the medical profession would give mental agents due attention? Certainly, wonders indeed. And, too, without resorting to their nefarious methods. As the wise man of old said, "*Fas est ab hoste doceri.*"

The time is coming when every medical college will have a chair of psychology, and the ways and means of laying out the road to health for the patient's mind will

open a scientific field of broad dimensions. The time is coming when treatment of morbid states of the end organs of sense through the medium of the inner man will rest upon organized knowledge for support. The time is coming when the scientific solution of the mysterious relations of mind to the complex and subtle organization of matter will give medicine its highest character as a science. And then our profession will find it unphilosophical to attempt to separate mind and matter in practice, so intimately are they associated; indeed, both being parts of one great united system of reciprocal action and mutual contribution. May God speed the advent!

A PRACTICAL STUDY OF SERIOUS ABDOMINAL CONTUSIONS, WITH A CLINICAL REPORT OF TWENTY-ONE CASES.*

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REPORT OF CASES—continued.

CASE XIV.—Contusion of abdomen. History: Patient male; aged thirty-six; single; admitted to hospital May 23, 1894. Diagnosis: Contusion of abdomen, rupture of intestine, internal hemorrhage and dislocation of right shoulder.

The subject of this history was a hearty, muscular man of about the average height and weighed about 225 pounds.

In his early boyhood he met with an accident by which he lost his right leg, and as a substitute he wore an artificial member.

About two hours before he was brought to hospital he started out for a drive with a powerful but badly broken colt. While driving by a trolley electric car the horse was startled by the sound of the gong and undertook to run away, but his muscular driver was too much for him and held him in. He then reared, plunged and tipped the carriage over, but he was manfully held in. He now became furious and commenced to violently kick, striking his unfortunate driver with terrible force, first dislocating his left shoulder and then

sinking his hoofs into his abdominal walls. The driver quickly went down under this battering and let the reins fall. Succor was promptly at hand and an ambulance soon arrived. I saw him immediately after admission to the hospital. He was then in great distress, complaining mostly of the abdomen. The first thing done after he was freely stimulated was to reduce the dislocation. His abdominal pain was most agonizing, and though morphine was administered in very large and repeated doses and hot stupes were applied over the abdomen, relief was not complete. His state of shock was most profound. The skin was marble-white and gave free issue to a cold perspiration. The hands and feet were rather cool. The features were pinched, the eyes sunken and lips bloodless. His urine drawn away with the catheter was normal and bloodless. Over the abdomen there was no trace of injury, neither abrasion nor ecchymosis. But it was everywhere painful, and though both pupils were contracted from full opium narcosis, still he groaned with pain. Tympanites was well marked, the distention being so great as to interfere with the movements of the diaphragm. As the abdomen was so deeply covered with fat, it

*Read at the annual meeting of the New York State Medical Association, October 10, 1894.

was quite impossible to locate any of the organs or determine any local lesion. With his legs drawn up and the chest raised he was most comfortable. Treatment was actively instituted for the dual purpose of annulling pain and overcoming the effects of shock, and next with a view of arresting peristalsis and securing quiet to the injured viscera. From the marked anæmia it was evident that some important vascular organ had been lacerated and that there was internal hemorrhage. Of intestinal rupture there could be scarcely a doubt. The extreme and sudden tympanites decided this; besides, the agonizing, incoercible pain was quite conclusive proof. The pain of intestinal perforation may be distinguished by its quality, as it has been my fortune to verify in laparotomies on the living and on post-mortem examination on those who have died from intestinal lesions. In two hours this man received two grains of morphine hypodermically, besides nearly a pint of brandy, without wholly subduing the pain. After about three hours the pain came and went alternately in spasms, probably synchronously with the peristaltic wave or contraction of the abdominal muscles. His strength gave way rapidly, the pulse steadily weakening and the extremities colder. At 9 P.M. he died, just six hours after entrance. About half an hour before the end came the dying man informed his mother that "the pain was gone and he now hoped to have a sleep."

In this case an autopsy was denied us.

A kick from a horse, delivered squarely and with full force, is often terrible in its consequences. The skull gives way like an egg-shell under it. The thoracic cage, with its pneumatic buffers inside, will sustain it better than any other part of the trunk. The spine is remarkably resistant too, for among more than a hundred cases of spinal traumatism which have come under my care I have never seen one in which the cord was implicated in which the injury was caused by the kick of a horse. But the abdomen is especially vulnerable to this quality of force, and statistics show that many of the mortal types of abdominal contusion succeed from such injuries. This man's general condition was so desperate from the time he entered as not to permit us for a moment to consider an exploratory laparotomy. The probabilities are that had we undertaken one, like

the previous case it would have ended mortally before we could return him to his bed. As to the propriety of experimentation in the way of inflating the intestine through the rectum with air or gas for the purpose of verifying diagnosis, it does not seem clear what can be gained by forcing fecal matter out through a perforation into the peritoneal cavity, or even should there be any reliance placed on the test at all, of what does it avail when to do an operation is to kill one's patient?

CASE XV.—Contusion of abdomen (compressive). History: Patient male; aged twenty-seven; single; admitted to hospital June 2, 1894. Diagnosis: Contusion of abdomen with fracture of last two floating ribs close to junction with vertebral column.

On the morning of the above date patient, who was the driver of an ice-wagon, was injured by a collision accident. He was seated in front, having on a little more than two tons' weight of ice, drawn by two horses, when another passing heavy team, moving in an opposite direction, collided with the front wheel of the left side of his wagon. The opposing vehicles came together with such suddenness and clash that he was thrown out on the right side, striking the ground on his chest. Immediately before he could extricate himself he was caught and run over by the front wheel of his loaded wagon, it passing obliquely across the wings of the scapular. In the frantic efforts of eye-witnesses to stop the team the frightened horses, instead of going ahead, suddenly turned, this movement bringing the hind wheel in such a position that it crossed the body just over the iliac and lumbar segment of the spine.

After being doubly crushed by this tremendous weight it was thought that he surely had been killed. He was in such terrible shock that the physician who was first called pronounced the case as quite hopeless, as he breathed only in gasps and was quite pulseless. After two hours' interval he had partly revived and an ambulance was called, when he was taken to the hospital.

Soon after he entered I saw him. He was yet in great shock, though coherent. He complained of severe pain all over the abdomen and over the hypochondriac region of the abdomen. He had twice vomited a bloody fluid, and urine drawn away

was blood-tinged. The two lower floating ribs on the right side were found fractured close to their vertebral attachment. There was free hemorrhage into the left pleural cavity which spread far into the tissues over the seat of fracture. The whole abdominal areas were extremely sensitive, particularly over the liver, and the symptoms of free intraperitoneal hemorrhage were quite unequivocal. The intestine had evidently escaped in this violently flattening-out process. There was a distinct mark of discoloration and abrasion where the front wheel passed, but none over the abdomen. There was no paralysis, though he complained loudly of severe abdominal pain. Morphine and topical applications had to be vigorously applied. Reaction was gradual and fairly reestablished, when pleurisy and peritonitis set in. Constipation, abdominal distention and exquisite pain announced the latter, and diminution of respiratory murmur, with acute pleuritic pain and the friction rub, determined the former. Opium, stimulants, frequent enemata, and with the free employment of mercurial inunction over the integuments investing the thoracic and abdominal viscera, seemed to maintain him and keep inflammation under control. His youth and fine constitution contributed their share in holding him up until the storm of reactionary disturbances had blown over and function had become reestablished.

During the second week he was in the hospital his integuments became stained by a moderate tinge of an icteric hue, the hepatic area was very sensitive, and other associate symptoms pointed to an attack of traumatic hepatitis. His recovery was gradual, but steady, and after the third week he was able to sit up.

July 9th he left the hospital quite recovered, his strength and appetite restored and all his functions restored.

The features of special interest in the above remarkable case were, first, those referable to the spine. We had here demonstrated the fact that when the lumbar spine is crushed by compressive force the primary effects of it are manifest, first, through the abdominal organs which lie loosely anterior to it, which suffer through transmission, the inclosed *corda equina* always escaping, except when the force is applied with great impetus and is concentrated or when the underlying organs are mortally damaged. Secondly, the costal

fracture. There can be no doubt but the elastic resilient ribs offered great resistance to the force brought to bear on the back, and so diffused it as to greatly diminish the immediate effect of its impact. Thirdly, the rapid resorption of the pleural and peritoneal hemorrhagic effusions.

The projecting pneumatic buffers which over-roof the liver and the stomach suffer their outer costal walls to be fractured in different places and scatter concentrated force in various directions when force is applied; the lung itself being lacerated before the abdominal organs are involved.

CASE XVI.—Contusion of abdomen (compressive). History: Patient aged thirty-two; married; brakeman; admitted to Harlem Hospital January 19, 1894. Diagnosis: Laceration of the liver with rupture of the stomach and urinary bladder.

At about dusk on the evening of above date patient, who was a new hand at railroad work, was assisting in making up a train in the New Haven yards. He stood on one track waiting for a train to move out on another. In the midst of the noise inseparable with moving trains in a freight-yard, and while he was watching another train, a car being pushed down the track that he was on by an engine, before he saw it hit him a violent blow on the abdomen and knocked him outside the rails.

He lay where he fell for nearly an hour before he was missed. When found he was unable to speak. He was brought into the freight-house and remedies were vigorously applied by attending physician. After three hours he rallied and was sent in to hospital. Was now conscious. He could speak in a feeble whisper and said he was dying.

At this time the hands and feet were chilled by that icy damp cold of death. No radial pulse. The sunken eyes, the collapsed nares and blanched skin clearly indicated that the end was near and that some large blood-trunk had been torn open. He died a few hours after entrance.

Post-mortem examination thirty hours after death. No discoloration of integument. Right rectus abdominalis ruptured through upper third. Peritoneal cavity full of blood and aliment; the center of the convex surface of the right lobe of the liver was the seat of a stellate laceration which opened widely the hepatic sinuses. Rup-

ture of the portal vein about half an inch above the confluence of its tributaries.

A rent about four inches long involved the posterior wall of the stomach, extending through all its tunics.

Another laceration was found running transversely across the fundus of the bladder two and one-half inches long. No bones were fractured.

This case was one which so fully demonstrates the destructive force which so generally attends grave railroad injuries. When a limb is mangled by a railroad smash we almost invariably find the tissues terribly mutilated above and below the point of injury, the integument often being devitalized far above it. And likewise in abdominal cases the extent of destruction is terrible. Two other cases of railroad injuries of the abdomen have come under my observation, but in both the moribund state had set in before the ambulance arrived to take them to the hospital.

CASE XVII.—Contusion of the abdomen, resulting in appendicitis; general peritonitis. History: Male, aged fourteen; admitted to hospital June 26, 1894. Diagnosis: Traumatic peritonitis following contusion of the abdomen.

Patient stated that ten days before, while standing on the rear of a vender's wagon filling a pail with potatoes, his horse suddenly started and he was thrown out, striking his body with great force against the upper rim of the wheel. He was somewhat dazed for a while, but was able to get up, having a moderate spasmodic pain in the right iliac fossa. He was able to keep at his work for three days; by the fourth the pain became so intense that he was quite unable to rise. Now medical aid was called and moderate purgatives prescribed. For three days he remained in bed without making any improvement. On the tenth day after injury he was sent to Harlem Hospital.

Condition on admission was very weak. Moderate vomiting; temperature, 104°; pulse, 118; respiration, 27; abdomen tumefied, exceedingly tender everywhere and suffering constant pain. No marks nor abrasions on abdominal walls. Free inunction of mercury over entire abdominal area; opium given freely; moderate enemata.

The following day much improved;

vomiting ceased and thirst greatly diminished. Temperature, 99°; pulse, 94; respiration, 22.

June 28th. No pain in abdomen. Sitting up. He was hungry. Temperature, 99°; pulse, 88; respiration, 21.

As he was now apparently convalescent and only needed a few days more of rest, and as our service was crowded he was transferred to Bellevue Hospital.

From the hospital records we learned that shortly after his arrival there serious abdominal symptoms developed. Dr. J. D. Bryant, into whose service he was sent, made incision into the median line and evacuated a large quantity of pus; irrigated, etc. The boy died the next morning. On autopsy the appendix was found perforated and gangrenous. This was a case evidently in which the starting-point of the trouble was in the abdominal contusion, which probably crushed the appendix. It has been a mooted question whether a traumatism can be regarded as an etiological factor in appendicitis. It is my firm conviction that it is.

This caudal appendage is indeed vermicular not only in contour, but also in its freaks and excursions. It may grope down into a hernial sac. It commonly lies down over the pelvic brim, its tip resting in the pelvic cavity. It often turns on itself and finds lodgment under the cæcum. Its tip has been found adherent to the liver, and in an abscess which was lately opened by myself to the right of and on a line with the umbilicus it was found fixed there.

When it hangs suspended over the pelvic brim it is particularly exposed to damage from such compression or contusion as will press it up against this sharp ridge. Possibly it occupied some such position in this case, though the autopsy notes do not state it.

In the parturient woman it can scarcely escape injury in this situation when the foetal head becomes impacted.

Very recently a case came under my care in which delivery had been attended with great difficulty. From time of confinement the patient constantly complained of severe pain in her back and right loin. Four weeks after confinement a swelling appeared above the crest of the right ilium posteriorly. At this time she had well-marked symptoms of local peritonitis with general septic infection. I made a deep

dissection over the mass and came down on a cavity filled with gas, fecal matter and pus. After free drainage a good recovery succeeded.

This was clearly a case of traumatic appendicitis originating at accouchement.

In this boy we saw well illustrated the insidious manner in which serious consecutive lesions may follow after an apparently insignificant abdominal injury at the outset.

CASE XVIII.—Abdominal contusion; the body falling. History: Patient a male; aged forty-four; engineer; admitted July 17, 1894. Diagnosis: Contusion of the abdomen with lacerated kidney.

On the above date patient fell from the motor-house of a drawbridge to the driveway below, a distance of about twenty feet. In his descent his right side came with great force against a rail upright. In connection with the abdominal injury he sustained a Pott's fracture of the right leg. He was immediately transported to the hospital. On admission he was in shock and suffering great pain in his right side over the lumbar region.

He was seen by me the following morning. At this time he was free from pain unless he attempted to move. On the right side as far back as the spine, up over the four lower ribs, down over the crest of the ilium and for a considerable distance inward, there was a large discolored tumefied area. This imparted a sense of fluctuation and was everywhere flat on percussion. From the time he entered he complained of an intense desire to urinate. On the passage of the catheter the bladder was found to be distended with blood. This was more or less clotted, of a bright red color and mixed with urine.

The bladder was irrigated with a warm solution of boracic acid and local dressings applied over the seat of injury.

On the third day after admission he had a chill, after which symptoms of cystitis and a localized peritonitis over the seat of injury and the hypogastrium were well marked. From this time the passage of the catheter was so painful that cocaine solutions had to be employed each time to blunt sensation.

Symptoms of urethral fever gradually set in, sleep was irregular and he became feverish and fretful. The bowels acted well and he took freely of fluid nourishment.

After the first week he steadily failed in strength and symptoms of toxæmia steadily increased. After the end of the third week he drifted into a somnolent condition, in the mean time the urine continuing very bloody. He finally succumbed on the 10th of August from a mixed condition of exsanguination and urethral fever.

In this case we had an illustration of those urinary sequelæ which may follow when the kidney has sustained an extensive laceration or disorganization from violence, and such constitutional disturbances follow as may imperil life.

It was clearly evident from the physical examination that the kidney had been extensively lacerated and there was a large sanguinary and urinary leakage into the retroperitoneal tissues. The most serious complication, however, came from urethral and vesical irritation and fever.

For some cause, not by any means clear to me, in certain cases the most disastrous consequences follow the passage of the catheter into the bladder. To say that it is due to septic infection proves nothing. My own experience inclines me to dispute this view, for the reason that I have seen it develop when every antiseptic precaution was taken. On the contrary, we see those who catheterize themselves with stiff, solid old instruments as a daily practice for years with impunity, as far as infection goes. Hæmaturia in this case was so excessive and persistent as to produce a most pronounced anæmia, which so exhausted the general system as to reduce its resisting power to the effects of trauma.

Death in this instance was primarily and ultimately produced by renal and urethral trauma alone. The peritoneal inflammation remained purely local, as it did not spread beyond the parietal investment anterior to the kidney.

CASE XIX.—Abdominal contusion. History: H. H., aged thirty; single; male; admitted to hospital August 4, 1894. Diagnosis: Contusion of abdomen, rupture of internal organs, internal hemorrhage and shock.

Patient was employed in excavating rock. On the day of injury he was struck with great force by a falling boulder, which struck him over the umbilicus, and knocked him down.

It was at first supposed that he was

killed outright, but he soon recovered consciousness and the circulation became reestablished; was immediately brought to the hospital.

On admission the extremities were cold and pulse was gone at the wrists; complained of great abdominal pain over the hypogastrium.

Evidence of free internal hemorrhage with rupture of the liver and deep vessels. No trace of injury over the integument investing the abdomen. No paralysis of extremities, but feces and urine flow away involuntarily.

Stimulation and artificial heat made no impression, and he died one hour after admission, deep collapse continuing to the end.

In the foregoing case death ensued from internal hemorrhage, probably either from laceration of the liver or a rent through the vena cava.

In this case possibly we might suppose that an immediate abdominal section should have been performed, with a view of attempting to suppress hemorrhage, but when we come to practically deal with such a condition as was here presented, we appreciate how fallacious theorizing often is. Our man was in practically a moribund state when he was brought in. And, unhappily, often when we can detect the source of hemorrhage we are powerless to check it before alarming symptoms set in, that in order to avoid killing our patient we must desist.

CASE XX.—Contusion of abdomen (percussive). History: Patient aged forty-two; married; laborer; admitted to hospital August 12, 1894. Diagnosis: Abdominal contusion with fracture of eighth and ninth ribs.

Patient, a carter, had unharnessed his horses and was about to put them into the stall, when another horse passing raised his hind legs suddenly and gave his driver two violent kicks with both hoofs, knocking him down.

For some minutes he was unable to raise himself. When he was brought into hospital was in great pain over the chest at the site of injury and over the umbilicus.

The eighth and ninth ribs were fractured near their chondral articulations and there was evidence of free hemorrhage into the pleural cavity. There were marks of contusion over the broken ribs, but none over the abdomen.

Complained of a steady severe pain in the epigastrium. Abdomen everywhere very sensitive. General condition fairly good. The chest was braced by adhesive straps and bandages. With hot aromatic drinks and warm stupes over abdomen pain was moderated and he rested quietly. This case progressed steadily toward recovery, and he left the hospital quite well after a two weeks' sojourn.

In this case the brunt of force was first received and neutralized by the costal walls of the thorax. The contusion of the abdomen was probably caused by the sudden kick, which probably, besides bruising the muscles and concussing the viscera, did little harm. The case properly belonged to what might be regarded as a parietal or extrinsic injury of the anterior boundary of the trunk.

CASE XXI.—Abdominal contusion (compressive). History: Patient a driver; twenty-seven years of age; single; male; admitted to hospital August 27, 1894. Diagnosis: Laceration and contusion of the liver with severe compression of the stomach.

On the morning of this date, immediately after breakfast, a young man having loaded his wagon for market, and his horse being harnessed and standing yet in a covered shed, when he went behind the wagon for something the horse suddenly was startled and forcibly backed the wagon against the driver, who could not extricate himself. He was crushed with great force directly across the abdomen above the umbilicus, being caught between the back part of the wagon and the wall of the building. Immediately after backing the animal made a plunge forward, when the injured man fell to the ground in a helpless state. Stimulants were given him and he was sent at once to the Harlem Hospital. On entrance he was in great shock; extremities cool and he was almost pulseless. Was promptly placed in bed and restoratives given. Urine was drawn with the catheter. His state was so precarious during the first twenty-four hours that no attempt was made to do anything more than make a superficial examination. By this no sign of injury could be detected by any discoloration of integument over the abdomen. But he was very sensitive to pressure over the abdomen and liver and all the superior areas of the abdomen. During the first day in the

hospital he suffered from intense abdominal pain and hæmatemesis. The abdomen was hard and flattened through contraction of the muscles. Physical examination revealed the presence of fluid in the peritoneal cavity, which, judging from the sudden and extreme anæmia he suffered from, no doubt was a sanguinous accumulation. Moderate jaundice appeared on the third day, but the urine had a slight and evanescent bile tinge. Constipation persisted for the first six days. Traumatic peritonitis was unequivocal, though it was chiefly parietal and at no time took on serious symptoms. His recovery was gradual, and after six weeks in the hospital he left for home fairly restored, still, however, rather weak.

It was interesting to note here that after the fourth day a broad annular belt of discoloration appeared above the umbilicus which had not quite disappeared when he left the hospital.

This was an instance of typical hepatic traumatism in which the gall-bladder escaped. Though breakfast had been eaten

less than half an hour and the stomach was distended with food, it escaped rupture; still from the free vomiting of blood which followed there was no question of extensive laceration of the internal glandular and muscular layers. The liver was damaged by being crushed between the arched anterior shafts of the five lower ribs and the spine. The liver, in common with other solid viscera of the abdomen, suffers trauma with singular tolerance and in the healthy, vigorous subject possesses great recuperative energy. This was well illustrated here.

The development of the line of discoloration on the fourth day was a phenomenon which we commonly witness over those soft parts which are not supported by an osseous understructure of resistance.

Discoloration of the integument depends primarily on effusion of blood from the capillaries and consecutively on the chemical changes and evolution of gases. These depend on the circulation; therefore why when reaction does not set in these phenomena are absent.

COMMUNICATIONS.

WISDOM AT THE BEDSIDE—FACTS AT THE POST MORTEM.

JOHN J. TAYLOR, M.D., STREATOR, ILL.

In the month of June I was called in consultation to see a gentleman lying ill in St. Mary's Hospital. The man was apparently about fifty years of age. His face was flushed as with hectic, rather spare and slightly pinched and bore an anxious expression. The eyes and skin were icteric. His respiration was about 40 and the pulse varied from 125 to 140. Temperature 102° to 103° F.; the tongue was dry, rough, heavily coated yellowish to dark brown, and decidedly pointed and tremulous when protruded. Bowels constipated; urine scanty and of very dark color. Occasional vomitings; loss of appetite. Skin dry and husky. Mind clear. The body was very thin. The bedding thrown back and his chest bared showed quiverings of the tissues at the point of the sternum from the heart's action. The left

ribs did not rise and fall; the intercostal spaces were obliterated and the left side seemed somewhat larger than the right, and by measurement proved to be so, though by only about one inch. Below and extending above the lower edge of the eighth rib, about half-way between the sternum and vertebræ, was seen a white line or cicatrix about a half-inch long, alleged to have been produced a number of days previously. Percussion revealed a normal condition of the right lung, but on the left from the third rib down there was a high, dead sound characteristic of a solid body, such as emitted by percussion over the liver. The stethoscope detected a high-sounding respiration, but otherwise natural condition of the right side, while on the left side above the third rib râles and sibilant bronchial respiration were

noticed. Below the third rib no sound was detected save the faint, muffled beating of the heart.

My diagnosis was that the left pleural cavity was filled with a fluid, probably sanguino-purulent in character, the result of the wound at the site of the cicatrix mentioned. From the time of the alleged injury three weeks previously the patient had fever constantly. Notwithstanding antipyretics had been sedulously given, only temporary benefit was derived from their use. Septicemia was the cause of the fever. My advice was to tap the chest and draw off the offending matter; the first and greatest chance to save the patient. In any event the prognosis was unfavorable.

When paracentesis thoracis was advised the friends and patient were not ready for so radical a measure. I did not again see the man for a week. In the mean time another consultation was held; and the consulting surgeon assured the friends that there was no fluid in the cavity, or if there was it was only a small amount, which would be absorbed when the traumatic pneumonia terminated. As the patient grew worse I was recalled.

The patient was now less inclined to eat, could not rest and had lost strength. The same general symptoms were present. Along the left chest walls, particularly over the pectoral muscle, there was considerable infiltration-edema; the back of the left hand was also swollen. The patient now insisted and the friends were ready for an operation. "Anything to give me relief," he said. So the time was set for that afternoon. The Sisters, ever willing and efficient, had all in readiness at the appointed hour. The clothing removed, an oilcloth was placed beneath the patient; he was washed with hot water and soap, followed by sponging of the chest wall with sterilized water. An incision was made through the skin a fraction of an inch from the cicatrix mentioned and just above the ninth rib, and the fine Allen aspirator trocar was thrust through the intercostal muscle close to the upper edge of the ninth rib into the pleural cavity for two inches. The needle was withdrawn and a very dark sanguino-purulent fluid escaped into a two-quart basin, which was filled three times, six quarts having been drawn off. When the fluid failed to run it was pumped out with the aspirator.

The cavity was thoroughly washed out with sterilized water until the water came away perfectly clear.

The patient was somewhat fatigued, but expressed himself greatly relieved. The distress for breath seemed almost gone; the heart's action was improved. The patient slept several hours that night, the first sleep in a long time. His appetite was slightly improved for a day or two; the body temperature was somewhat diminished; the pulse slowed; vomiting ceased. But the improvement was ephemeral and deceptive, for in a few days it was evident that he was losing ground. The day following the operation, in different parts of the chest could be heard coarse, moist râles with sibilant bronchial respiration.

Something like a week passed, and it was deemed best to repeat the tapping. This was done, with thorough washing out of the pleural cavity after the removal of a quart of purulent fluid. The respirations continued at from 35 to 45. Emaciation progressed. He became more icteric and, save the cough and lack of expectoration, he looked and acted like a man suffering from consumption. I saw the patient perhaps a half dozen times and used the stethoscope and percussion each time. I was able to hear a respiratory murmur, although weak, over different portions of the left chest, the râles and sibilant respiration being present in every examination. Three days before he died I saw him, and the physical signs showed some reaccumulation of fluid. He was very much exhausted. A whizzing sound, similar to that in emphysema, was heard. The tongue was dry as a chip and very dark. Urine very scanty and dark. Pulse feeble. In fact, the man was gradually passing from life into the shadow of death.

Post Mortem: On invitation from the attending physician to be present at the autopsy, I learned that the coroner wanted a Democrat to hold the post mortem, saying: "This is a Democratic administration and we Democrats must have all there is in it." So as a looker-on the following conditions were observed: Complete rigor mortis; the usual incisions in the skin made and the costal cartilages separated, the manubrium and cartilages were tilted up over the face and the chest cavity was in full view; the left pleural cavity con-

tained a large quantity of purulent fluid which was poured out by tipping the body on to its side and the removal completed with a sponge; the pleura, at two points, was entirely destroyed, exposing the roughened ribs; the pathological lung measured seven inches long, four inches wide and an inch in thickness—estimated; was almost black and on being placed in water sank; it was very friable; had been attached to the upper and front wall of the chest; the right lung was normal or nearly so; the liver was enlarged, slightly lighter in color than natural, and weighed six pounds; in the abdominal cavity, in the lumbo-hypochondriacal region there was a quantity of serum; the omentum was puckered up and was slightly adherent to the diaphragm, showing that a limited peritonitis had existed; heart and kidneys normal; fibrin clot in heart.

The surprises were the great amount of pus present; the pathological condition of the lung; the ribs denuded at two points,

and that life was so long retained despite such profound pathological changes. The left lung was absolutely of no physiological use, so that oxygenation was carried on by the right lung alone.

How soon did the lung collapse? Did it expand at all after the first paracentesis? Whence came the râles and the sibilant and whizzing sounds perceptible to within a few days of death? Was the enlarged liver due to septicemia or to the tipping to which he was addicted? Was the local peritonitis produced by some small perforation? Did it come from the pleural cavity above or was it the result of septicemia? What would have been the probable result had the cavity been tapped the day after the injury, when it contained pure blood from the wounded intercostal artery? Would the compressed lung have been likely to be restored a week after the injury? Was the large quantity of pus formed partly due to changes in the already accumulated blood?

TRANSLATIONS.

THERAPEUTICAL SUGGESTIONS FROM FOREIGN JOURNALS.*

TREATMENT OF PHLEGMONOUS INFLAMMATIONS WITH AN ALCOHOL DRESSING.

Dr. Salzwedel (*Centralblatt f. Chirurgie*, No. 45, 1894) is an enthusiastic advocate of a permanent alcohol dressing in phlegmonous and similar inflammatory conditions, claiming to have obtained with it ideal results. The inflamed region is washed with ether and a thick layer of cotton soaked in alcohol is applied. This is covered with an impermeable dressing material in which holes have been made to assist slight evaporation, otherwise the alcohol would act too caustically. A cambric bandage is then applied over the whole. The dressing is renewed every twelve to twenty-four hours according to the severity of the case; later, after subsidence of the swelling, every two or three days will suffice. Any open wounds may be covered with mull and over this the alcohol-soaked dressing be laid. A 60–90

per cent. alcohol is employed. The swelling and fever rapidly fall and abscesses form rapidly. These should be at once incised and the alcohol dressing be continued until healthy granulation or complete healing follows. Furuncles rapidly disappear or come to a head under this treatment; acute and non-tuberculous glandular inflammations also are favorably influenced. Suppurating buboes should not be tamponed with alcoholized cotton, as it is too caustic. In erysipelas it has given good results. Freshly infected wounds may be washed out with alcohol, for it penetrates into the depths and prevents the formation of abscesses.

POISONING FROM A BELLADONNA SALVE.

Dr. Melzer (*Memorabilien*, No. 6, 1894) prescribed a salve consisting of belladonna and lanoline (1:30) in a case of pruritus of the anus in a female. Although the itching soon disappeared, she had the salve prepared several times and continued to

*In charge of the translator, F. H. Pritchard, M.D.

use it daily. For several days she had complained of extreme weakness in her legs, dizziness, nausea, headache, a bitter taste in her mouth, great dryness and a scratching sensation in her throat, disturbances of sight and a sensation of great pressure over the eyes. The pupils were found to be dilated and her pulse increased in frequency. After discontinuing the salve improvement followed, with a complete restoration to health in several days. The skin around the anus was intact.

FORMULÆ FOR THE USE OF CHLORAL
EXTERNALLY.

Dr. Brodnax (*La Semaine Médicale*, No. 63, 1894) recommends the following formulæ for the external employment of chloral:

In cutaneous pruritus from urticaria, measles or other eruptions:

Chloral..... aa o | 50 grs. xijss
Carbolic acid
Olive oil..... 5o | o 3 jss, gttss. xxx

Apply locally.

In toothache:

Chloral..... } aa 5 | o 5 j 1-4
Camphor..... }
Carbolic acid..... }
Glycerine..... }

Introduce a ball of cotton moistened with this mixture into the cavity.

In earache:

Chloral..... } aa o | 50 grs. xijss
Camphor..... }
Carbolic acid..... }
Castor oil..... 15 | o 3 iv

Instill a few drops of this mixture, previously warmed.

In acute coryza:

Chloral..... o | 50 grs. xijss
Castor oil..... 15 | o 3 iv

If applied to the nasal mucous membrane after cleansing of the surplus mucus this mixture will arrest the secretion, calm the irritation of the mucous membrane as well as the accompanying headache.

TREATMENT OF INFECTIOUS DISEASES BY
IRRIGATION OF THE NASO-PHARYNX.

Dr. A. Heller (*Wiener Medizinische Presse*, No. 47, 1894), believing that the majority of infectious diseases are caused by inhalation of the pathogenic germs and that their first localization is in the upper respiratory passages, has been in the habit during the past twenty-five years of employing irrigations of the naso-pharynx in these affections with the best results. He uses a simple rubber ball with a small

tip and injects water which has been boiled and allowed to cool, though any disinfectant may be added. The temperature may vary according to the case. The head is held in the ordinary position and the stream is thrown horizontally through the open mouth two or three times on each side of the pharynx with a slight and equal pressure. The first irrigations are followed by a rapid fall of the temperature and a feeling of ease; the local symptoms, if present, also improve at the same time. The result is most striking in facial erysipelas and in various forms of tonsillitis. In diphtheria he claims that proper irrigation is able to act as a substitute for tracheotomy. He also recommends warm-water irrigations in whooping-cough, where they cause a rapid diminution of the attacks of coughing and a decided shortening of the disease; in scarlet fever and measles and in swelling of the cervical lymphatics, where there is often a naso-pharyngeal affection at the root of the glandular involvement. Also in tuberculosis, where the irrigations not only act as a preventive, but also as an actual therapeutic agent; in typhoid fever, articular rheumatism, etc. In pneumonia, bronchitis and bronchial catarrh he believes the irrigations to be an active expectorant. He finally advises their use in eczema of children, which he holds chiefly to be due to an auto-intoxication by the naso-pharyngeal mucus, as well as in the various facial neuralgias.

EXTRACT OF SPLEEN SUBCUTANEOUSLY
IN MALARIAL CACHEXIA.

Dr. G. Cousin (*La Semaine Médicale*, No. 63, 1894), in two cases of malarial cachexia with considerable enlargement of the spleen which had resisted the usual measures, employed with success a filtered extract of the fresh spleen of sheep, hypodermically. He commenced by injecting one gram of this extract, carrying the dose later up to eight to ten grams. These were made every day, and with the immediate result that the quantity of urine was increased, occasionally causing profuse sweats and a slight rise of temperature. Locally there were observed three times small nodules of the size of a hazel-nut. The spleen rapidly decreased in size, while the accompanying pains vanished, the appetite and strength reappeared and the

patients' weight and number of red-blood corpuscles were augmented. After about thirty-five injections the patients were cured.

TOBACCO-SMOKING IN DISEASE.

Dr. Jankau (*Zeitschrift fuer Krankenpflege*, No. 7, 1894) in many cases regards moderate smoking as indicated, and especially where there is an express desire. In the majority of surgical affections it is permissible, with exception of convalescence from operations upon the bladder and abdomen. Patients with diseases of the eyes, nose, throat or pharynx should never smoke. The internal diseases which would not permit smoking are peritonitis, typhoid fever and similar affections. In stomach affections smoking may be allowed if the smoke be filtered. Patients with organic heart diseases should smoke as little as possible. In lung diseases, under certain circumstances, he would hold smoking to be indicated; also in syphilitics. In those with nervous diseases there is no general rule; sudden withdrawal often does harm, while in cardiac neuroses only a very weak tobacco with filtration of the smoke is allowable. To smoke in the sick-room where there are several patients present is hardly to be commended. The best time to smoke he would believe to be several hours after meals.

BELLADONNA IN SKIN DISEASES.

Dr. Eliza Dunbar (*La Semaine Médicale*, No. 63, 1894) has found belladonna, the use of which is almost limited to the treatment of itching affections of the skin by external application, also to be of actual value in certain other skin diseases. Thus she has succeeded in curing an obstinate case of exfoliating dermatitis and several cases of eczema, which had resisted the usual measures, with the internal and external use of the tincture of belladonna. In the management of pruritus of the vulva and other local pruriginous affections she has obtained good results with local applications of a mixture of the tincture of belladonna and the perchloride of iron or with an aqueous solution (10 per cent.) of the sulphate of atropine.

TO ADMINISTER CASTOR OIL AGREEABLY.

In the *Medicinische Neuigkeiten*, No.

45, 1894, in giving castor oil to children it is advised to pour the oil upon a lump of coarse brown sugar; the sugar soaks up the oil and disguises the taste. Adults might object to this sweet taste, in which case a pleasant emulsion may be made by shaking a teaspoonful of the oil in a bottle half-filled with warm milk; an agreeable emulsion is formed which neither tastes nor smells of the oil.

LOCAL TREATMENT OF ULCERATING SYPHILIDES.

Dr. Mauriac (*Revue Internationale de Médecin et de Chirurgie Pratiques*, No. 18, 1894) in the local treatment of ulcerating syphilides habitually employs the following salve:

Calomel.....	āā	1	o	grs. xv
Oxide zinc.....				
White vaseline.....	26	o	3vj,	grs. xxx
Starch.....	3	o		grs. xlv

PERMANGANATE OF POTASH IN SNAKE-BITES.

Dr. Lacerda (*Norsk Magazin for Lægevidenskaben*, No. 10, 1894) advises the subcutaneous injection of a solution of permanganate of potash both around and into the bite in the treatment of snake-bites. In the very poisonous foreign varieties a 5 per cent. solution may be necessary. In adder-bites Dr. Selldén, a Swedish physician, has found a 1 per cent. solution sufficient. The injection must be done as soon as possible. Ligation of the bitten limb will retard the absorption of the virus, yet not over twenty-five minutes.

STRYCHNINE IN SNAKE-BITES.

Dr. James McNish (*Australasian Medical Gazette*, No. 3, 1894) reports the case of a butcher, aged forty-five years, who was bitten by a poisonous brown snake upon the hand. The man was of powerful build and not under the influence of fright from the bite. He had himself applied a ligature, sucked out and scarified the bite with his pocket-knife. He came to the office and while joking over the bite, after eight minutes he suddenly fell to the floor from the chair insensible, with dilated pupils and eyes turned upward. Fifteen minims of liquor strychninæ were immediately injected into the arm; marked improvement soon followed, so that with aid he could be moved about. He seemed very

sleepy and begged to be permitted to sit down a moment. Alarming dyspnea soon developed, when another injection of ten minims of the strychnine solution was given; decided improvement followed. A second dyspnoic seizure came on accompanied by violent retching. He was then put under a cold shower-bath and brandy injected hypodermically. Breathing then became normal and he expressed himself relieved. Three further relapses then followed, which were treated by injection of strychnine, the cold shower-bath and black coffee. The next day he was over the worst and felt well beyond a feeling of nervousness, with slight weakness of the general nervous system, while at the site of the wound there was a sensation of numbness and tingling. The reptile was found to be a brown snake common to North Queensland, four feet six inches long, with well-developed poison sacs capable of holding ten to fifteen minims of poison; when examined they were quite empty. This is the fourth severe and genuine case of snake-bite which the writer has saved by the strychnine treatment. They were all accompanied by violent symptoms and could not be attributed to fright.

PERMANGANATE OF POTASH IN PHOSPHORUS-POISONING.

Dr. Antál (*Hospitals-Tidende*, No. 46, 1894) recommends the permanganate of potash as an efficient antidote to phosphorus. It alters the poison to phosphoric acid, which is comparatively harmless. It cannot be employed in concentrated solutions on account of its caustic properties, but he has observed from animal experiments that a 1:1,000 to 1:100 solution is easily tolerated. He administered a fatal dose of phosphorus to ten dogs; three were not treated by antidotes, yet received irrigation of the stomach. The other seven were treated, without washing out of the stomach, with a pint of a 1½-2:1,000 solution of the permanganate and administered from a few minutes to two hours after; this dose of the antidote was repeated three to four times. All seven recovered and remained in good health. In human beings he would advise giving at once from a pint to a quart of a 2-4:1,000 solution and to repeat the antidote a few times at half-hour intervals.

Hajnos has employed this method in two cases of phosphorus-poisoning in man, administering the antidote a half-hour after. Erdoes, two hours after the drug was swallowed in a very large quantity, gave every five minutes a wineglassful of a 1-2:1,000 solution until in all four quarts were drunk. At the same time an injection of apomorphine was given and the patient recovered.

STRYCHNINE IN PNEUMONIA.

Dr. Percy Kidd (*La Sperimentale*, No. 34, 1894) speaks highly of the use of strychnine hypodermically in the treatment of heart exhaustion in croupous pneumonia and other acute pulmonary states of inflammation. It seems to have a sedative and strengthening effect upon the nervous centers controlling the heart and respiration. It will frequently succeed where alcohol and ether fail. He advises its subcutaneous use in doses of one to one and a half milligrams. The condition of the pulse is the chief indication. As soon as it grows small and frequent or the respiratory movements become feeble it must be injected. The results are apparent in ten to fifteen minutes in an increase of the force of the pulse-beat and the respiratory movements. Though in general one injection every twelve to twenty-four hours is sufficient, it may be administered more often, even every two hours for three or four times, to continue it at longer intervals, as the occasion requires. In alcoholic patients it also acts well, calming the delirium and giving the heart and respiration increased strength by its action upon the cardiac and respiratory centers.

STERILIZATION OF CATHETERS.

Dr. Kutner (*Muenchener Medicinische Wochenschrift*, No. 45, 1894) advises exposing catheters to the action of hot steam as an efficient means of sterilization. Before one is introduced into the bladder an irrigation of the urethra must be made. For this purpose a 4 per cent. solution of boric acid is to be recommended. As a lubricant a borated glycerine he has found most serviceable. This is prepared by adding 146 grams of anhydrous glycerine to 150 grams of a 4 per cent. solution of boric acid; boric acid is then added to saturation.

BORAX IN EPILEPSY.

Drs. G. Angelucci and A. Pieraccini (*La Sperimentale*, No. 31, 1894), after an extensive use of borax for three years in the treatment of epilepsy where careful record of the number and intensity of the attacks was kept before, during and after treatment, have come to the conclusion that it is a very useful remedy in essential epilepsy, reducing the frequency of the seizures, sometimes suspending them entirely or substituting for the convulsions slight vertiginous attacks or "spells" of absence of mind. It rarely is inactive. It often moderates the character of the epileptic, rendering him more tractable and calmer. Its use should not be too prolonged, in general not over three months, and the dose should not exceed six grams a day, as it may give rise to grave stupor from which one recovers with difficulty. When signs of saturation of the system, as cutaneous eruptions, acne and eczema, desquamation of the skin and falling out of the hair, mucous vomiting, pronounced pallor of the forehead and a tendency to corpulency, appear, it should be immediately suspended. It is best given dissolved in warm water with a little sirup of orange three times a day, immediately after meals, commencing with sixty centigrams and then increasing to one gram, one gram and twenty centigrams, and later reaching two grams a day. Thus administered it will not cause disturbances of the stomach and intestines as when given in one dose at one time in the morning on an empty stomach. It also has the advantage of being inexpensive.

SCRUBBING OF INFECTED WOUNDS.

Dr. Ramm (*La Semaine Médicale*, No. 63, 1894), in order to obtain disinfection of tuberculous wounds or those which have been infected secondarily, advises scrubbing them energetically with a sterilized nail-brush dipped into an antiseptic solution. He has obtained excellent results with this measure.

TRUSS PADS FILLED WITH GLYCERINE.

Dr. A. Landerer (*Centralblatt fuer Chirurgie*, No. 41, 1894) for the past four years has been using trusses with pads filled with glycerine with satisfactory results. Their form is the ordinary one; the pressure exerted is soft, more uniform

and yet more forcible than that of the usual pads. In contrast with those they never become hard and are also quite durable, lasting for one and a half years. They have the advantage over the ordinary ones in that they do not thin the tissues about the ring. In several persons over thirty, with ruptures of the size of a walnut, he saw them disappear in one to one and a half years under the use of these pads, a result he had never obtained with the hard pads. This form of pad is also applicable in umbilical hernia and in movable kidney.

TREATMENT OF CARDIAC AND VASCULAR NEUROSES.

Dr. Determann (*Sammlung Klinischer Vorträge*, Nos. 96, 97) has observed in two years 54 cases of distinct neuroses of the heart and large blood-vessels. Men were chiefly affected, and particularly those whose occupations as merchants, speculators, etc., exposed them to emotional excitement. Anemia was generally present and the general causes those of neurasthenia. Emotions were usually the exciting factors, though it may be a reflex from other affections, as those of the digestive tract, sexual organs, neuralgias and the so called spinal form of neurasthenia. In rare cases a too elevated region may be the cause. Organic symptoms, as murmurs, extension of the heart's dullness and arrhythmia, are quite rare. The pulse-rate may rise upon slight excitement to 96 or 100 a minute, though at the beginning of the attack it may be slowed, especially after fright, with a reaction setting in with increased pulse-rate, changes in the color of the face and hands, paresthesiæ in the hands and feet, precordial anxiety and dyspnoea. In time the second or paralytic stage is reached, where the pulse is continuously high, 96-120, even occasionally at 140 and over, with a weak beat, the vascular tonus decreases, there is paleness and coldness of the peripheral parts, the nutrition suffers and sleeplessness sets in with depression of mind and irritability. Slight bodily exertions, as arising from a chair, turning around suddenly, or sudden emotional impressions, will then provoke an attack. The irritative and paralytic forms may be mixed. Diagnostically, myocarditis and sclerosis of the coronary arteries will offer

some difficulty. A transition of these grave nervous states to actual organic disease he regards as not improbable. The prognosis is not unfavorable with proper treatment and continued attention to hygienic rules. Its course is long and relapses are frequent. Treatment must be chiefly psychic; the causal affection must

be kept in mind and removed. The nutrition must be regulated, with plenty of fresh air and exercise. The various preparations of iron and arsenic with valerian are of service, together with hydrotherapeutic measures, electricity, gymnastics, massage of the heart and residence in an elevated region.

CORRESPONDENCE.

INEBRIETY.

EDITOR MEDICAL AND SURGICAL REPORTER—SIR:

In looking over some numbers of *THE REPORTER* of a year ago, I notice an article from the pen of Dr. Wigginton, of Waukesha, Wis., on this well-worn but still important subject.

"The drink problem of this country is of vast proportions," truly says Dr. Wigginton. "The vice of intemperance certainly demands the best thoughts and efforts and work of philanthropists in this as well as every other country. The misery, the suffering, the degradation, besides the untold and uncounted millions of money, speak for it a more than passing notice."

The one fact, however, that remains through all this, evident to every one, is that all that is necessary to remedy this evil is for men to abstain from the use of intoxicating drinks as a beverage. The arguments the writer uses to prove that inebriety is a disease instead of a vice are specious and have been used again and again by theorists, for it is *not* admitted, even "pretty generally," that inebriety is a disease. The author says inebriety is a disease governed by pathological causes the same as any other disease. He, however, does not mean to say that every man who takes a drink or even one who gets drunk under tempting circumstances is an inebriate.

Where would Dr. Wigginton draw his line of demarcation? I have seen men who could drink a half-gallon or more of whisky every day and still be able to attend to business, while others would get gloriously and even beastly drunk on a half-pint or less. What would the doctor do with these cases? The one man, as I have

absolutely known, often would be straitened to all appearances in the evening after having drunk a half-gallon or more; the other with a "jag" of gigantic proportions on a half-pint.

Dr. Wigginton claims that the causes of this disease are predisposing and direct or exciting, the chiefest of all being heredity. Let us consider this. He admits that a child born of intemperate parents need not of necessity inherit this disease, leaving us to infer that after all inebriety may be a vice. Leaving out sex, nationality, etc., as predisposing causes (for we propose to speak more particularly of heredity), we pass over most of his arguments, for if heredity be a true cause, then all others must be subordinate to it.

The drink habit is admitted to be almost wholly confined to males. How often do we see a man foolish enough to make a beast and worse of himself, of whom some one will say: "Oh, well, no wonder he drinks. His father or grandfather was a drunkard." This man, perhaps an only son, may have a half-dozen or more sisters, not one of whom has inherited this disease. In fact, no matter if the father and grandfather and all ancestors for hundreds of years back had this disease, the girls never inherit it. Oh, no! They may be puny and sick in body; they may and do have sorrows and troubles no man can ever dream of; they may be married to men who have inherited this disease who starve, maltreat and abuse them, but Dr. Wigginton nor any one else ever saw a case of heredity in a woman. It does seem strange that with all the cases of so-called heredity women are "not in it." One would naturally suppose, with her finer nervous organiza-

tion, her numerous diseases, unpleasant and painful beyond anything a man can feel, her greater temptations, with pregnancy, child-birth and the suffering incident thereto, woman would be affected with hereditary inebriety if there be such a thing. But who ever heard of such a thing in woman? In thirty years' practice I never saw or even heard of one case that could even remotely be accredited to heredity. An intemperate woman can always trace her disease to man's lusts, not to heredity; and with her virtue all she has in this life is gone.

When Dr. Wigginton speaks of environment, he strikes the keynote of the cause of ninety-nine out of every hundred cases of inebriety. Few men get drunk alone. Usually, in fact almost universally, men want some boon companions to make merry with them; and a boy or young man invariably, no matter whether his propensity be accredited to heredity or to deviltry, begins his drunken career in company with kindred spirits at a political meeting, Fourth of July celebration or social gathering of some kind. It is a very poor excuse or reason to attribute such cases to heredity. If the boy or young man had had different environments he would have remained sober.

Then, more nonsensical than all else, is the assumption that a man who is a drunkard cannot quit the beastly habit without treatment, let the cause be heredity or environment. He *must* abstain from the use of intoxicating liquor, even if he be treated by Keeley or somebody else. I knew a man who had been a drunkard for more than thirty years, drunk every day in all that time, who quit all at once and without treatment of any kind. This man had a good-paying business, but he drank up all the profits. He, as I said, simply quit drinking. He traveled all the time in connection with his business, accumulated property and was doing well again. He never kept away from places where liquor was sold and drank. He loafed about saloons and bar-rooms, but he never drank a drop. He lost all he had in the terrible Johnstown flood, but he came through and remained unscathed so far as his resolution to remain sober was concerned. Neither heredity, nor environment, nor adversity affected this man. He has solved this problem of inebriety, this disease so called, to his own and

to every unbiassed person's satisfaction. This man's whole system had been saturated with the morbid poison arising from the constant use of enormous quantities of whisky, yet he had no trouble to break the chain that bound him.

This man was constantly surrounded by boon companions, men who had the "disease" in its worst forms. He was a jovial, good-natured fellow, a great story-teller, with a big heart and a purse open always to "treat" any one who would drink. Yet to-day he is a sober man and a respected citizen, and that too without any treatment whatever, without religious inclinations of any kind, for unfortunately he is a very profane man. He simply determined to stop this vicious habit and show his legions of friends he was a man and not a brute. I inquired of him whether he was not tempted sometimes to drink. He said he was, but that he was man enough to overcome all temptations, and I believe he is. This case, which I have specified at length, is only one of dozens I could mention in my own neighborhood.

Cannot any man do this? Is it not nonsense to talk of any man's inability to stop a vicious habit without resorting to treatment? Of course no intelligent person will attempt to deny that after years of whisky-drinking and debauchery the system will become diseased. So will it if any other vice is continued for a length of time, but the difference between inebriety and other diseases lies in this fact: No matter whether the disease be epidemic or endemic, the system becomes charged with a certain morbid poison—germs, bacilli, microbes or whatever it is—from without, or at least the poisonous matter enters the system in a manner involuntary to the sick man, whereas in this disease inebriety the patient deliberately takes the poison into his system. He can secure immunity from the disease without inoculation, or he can eliminate it after infection by simply abstaining from the use of intoxicating liquor.

Dr. Wigginton truly says that "to summarize, we might say environment is the exciting cause and covers the whole subject." "Bad associates," he says, among other things is a cause, and I think we need seek no further for the direct and the main cause of drunkenness. Let a boy or young man keep away from evil associates

and he will never get drunk. Oftentimes we see a big strong man, after a business reverse or some trouble, death perhaps in his family or a little domestic misunderstanding with his wife, in which he is usually the aggressor, go off and get drunk and keep on getting drunk until he has this disease Dr. Wigginton discusses so learnedly. Does his wife, too, get drunk on a like provocation? Nay, verily! She bears up under a load of trouble her pining husband could not understand, and keeps her grand womanhood and her virtuous character unsullied. While her husband, with his "heredity" or "environment," is spending his money to get this disease, money his family sorely needs, she, with her "heredity" and her "environment," is doing right as "God gives her to see the right." Nobody pretends that this "disease," after years of immorality and vice, can be gotten rid of in "three or four weeks." The doctor says because a man suddenly stops getting drunk it is no sign he is cured of inebriety. He is right. But if the man stops and continues to stop he will be cured.

The author's recommendations for the cure of this disease seem to me, while harmless and good enough, to be rather visionary. The *drink habit* is certainly a serious one, and its solution calls for the best thoughts of statesmen and scientists, but it appears to me that the right thing has never been tried. I would not pretend to say what more would be right than to convince men that they wrong their God, their country and themselves by the continuance of this vicious habit. No man can make me believe that one ever lived who *could* not quit the drink habit if he *would*. To teach men that this vice is a disease and giving them a license to revel in debauchery and crime because of heredity and a presumed inability to help themselves is certainly a wrong to morality and to society.

I can remember as a boy in the community in which I live when within a radius of three or four miles there were twice that number of distilleries, and that the exception was to find a really sober man. Now there are but few distilleries in the county, and a habitual drunkard is the exception. Then not a house could be found where whisky was not used as a beverage. Now scarcely any one uses it. The liquor traffic in Pennsylvania is regu-

lated by a wholesome license law which if enforced is almost practically prohibitory, and any one can see the great reformation that has been worked out in the last two or three decades. Science, philanthropy nor anything else can eradicate this evil until it is looked upon as a vice and not a disease. WM. F. MITCHELL, M.D.

Addison, Pa.

Longevity and Drink.

The British Medical Association has been investigating the question of longevity in connection with the use of alcoholic beverages (*Med. Rec.*). Deaths to the number of 4,234, taken at random, show the average age of temperate drinkers to be sixty-three years; careless drinkers, fifty-nine years; free drinkers, fifty-seven years; intemperate drinkers, fifty-three years; total abstainers, fifty-one years. The analysis in the case of those who reached the age of over eighty shows that 15 per cent. were total abstainers, 10 per cent. heavy drinkers, and 74 per cent. moderate drinkers. Of those who lived more than ninety years, 15 per cent. were total abstainers, 9 per cent. were hard and 75 per cent. moderate drinkers. These figures must be applied with some caution. A certain large proportion of total abstainers are so because of some form of ill-health or natural weakness.

Tubercle Bacilli in Butter.

A Swiss physician introduced butter made from the milk of a tuberculous cow and containing tubercle bacilli into the abdominal cavities of guinea-pigs. The guinea-pigs died of tuberculosis. He then bought butter from various markets and injected five to ten centimeters of it into the abdomens of guinea-pigs. Two out of twenty specimens of butter were found to contain virulent tubercle bacilli.—*Boston Med. and Surg. Jour.*

Men and Women.

Twice as many women as men are afflicted with neuralgia.

Men are more liable to insanity than women, but after becoming insane die sooner.

Phthisis and pneumonia are more frequent and fatal among men than among women, while cancer and apoplexy kill more women than men.—*Med. Age.*

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SATURDAY, JANUARY 5, 1895.

EDITORIAL.

SENSATIONAL NONSENSE NOT SANITARY SCIENCE.

Occasionally medical scientists, by enthusiastically accepting some alluring but specious proposition prematurely, have allowed themselves to be swept into practices unfortunate for their science and disastrous to their patients. The tuberculin treatment for tuberculosis is an illustration of such an error.

Much more common are exhibitions of what may be termed burlesque science—irrational and illogical deductions from established scientific premises. Preventive medicine seems to afford peculiar opportunities for these pantomimic displays. It may be questioned whether medicine eventually is not benefited rather than embarrassed by these performances of science *bouffe*. Certain it is that they who in the name of science commit such folly and seek notoriety as public alarmists, are oblivious to the truth of that homely saying of Abraham Lincoln, "One may be able to fool some people all the time and all people some of the time; but

one cannot fool all the people all the time." The public press, which is the agent most frequently employed in circulating these pseudo-scientific dicta, is at the same time the factor most potent in exploiting their fallacies.

Perhaps there is nothing to which an American community is more sensitive, or which receives more the scrutiny of individuals, than those regulations of law or ordinance enforced as special protection against possible or imminent danger to the common health. The public sentiment which supports these regulations is the result of progressive education, and in this development the press is the most important factor. In matters of public health the lay press relies for proper direction upon current medical literature, and is prone to amplify and exaggerate whatever information is there obtained. Hence it behooves medical bodies and medical journals to be circumspect in their utterances and to con-

fine themselves to unadorned facts in their deliverances. The public is not accustomed to discriminate between real medicine and newspaper medicine, and the sayings of medical men or associations delivered to the lay press direct are but cheap biddings for notoriety. Whatever *eclat* is gained is at the unnecessary expense of public alarm.

Of late we have experienced an endemic of calamity howls which would have been regarded jokes but for the sources whence they arose. For instance, the following resolution, recently adopted by a medical society, certainly displays much more of anxiety to attract attention by making a great noise than of good professional knowledge or practical common-sense. The resolution recommends that "the Board of Education abolish the common drinking-cup in the public schools, the Park Commission do away with drinking-cups at springs, and railroad companies remove the common drinking-cups from all stations and trains, to prevent risk of contamination and teach the public to adopt and use individual drinking-cups."

This is a not unfair specimen of the sensational nonsense sometimes offered the public as sanitary science. It is a result of the thoroughly unscientific methods and egregious incompetency of those precocious ones who receive, without comprehending fully, an hypothesis probable in the abstract, and promulgate it as a general law positive in the concrete. There may be some extenuation in the case of our friends whose conception of the supreme spirit of medicine is a diluted Dynamis, and whose scientific faith predicates infinite potency of the infinitesimal. But it is not science in the ordinary acceptance of that much-abused word.

We do not feel called to defend the rust-corrupted tin cup of the public school, nor the galvanized solder ladle at the park fountain, nor the battered leaden antiques

which adorn some railroad stations and cars, but these are offenses against public decency rather than menaces to public health. To abolish articles so absolutely essential to public convenience and comfort may be sound theoretically. When reduced to practice, however, factors must be taken into consideration which modify the theorem to such an extent as to render it impracticable. These modifying factors will determine the verdict of the public in its estimate of the utility of the proposition.

That dangers may exist in the water supplied there can be no reasonable doubt. But the resolution does not contemplate dealing with the water. There appears to be no authentic record of the probable transmission of infection by the utensils mentioned *independent* of a contaminated water supply. Nor are we aware of an instance where in the researches of the bacteriological laboratory there has been discovered and identified any infective germs obtained from one of these public drinking-cups. Before advocating a measure which would produce an enormous amount of public inconvenience, discomfort and suffering, it would be well for astute aspirants to popular scientific repute to establish (1) the probabilities of these cups becoming infected in the course of their ordinary use; (2) the probabilities of retaining infection despite the disinfection by constant flushings with water and by exposure to the atmosphere; (3) the probabilities of users becoming infected under the necessary conditions demonstrated by present knowledge of infectious processes. When the risks can be shown to have more than a theoretical existence and a present danger can be urged against undeniable merits, science will be found ready to suggest a rational remedy.

The alternative proposed, viz., the possession and use of individual drinking-cups by each and every human being, is so

manifestly inconvenient and impracticable that we are impelled to advance a suggestion in aid of our scientific friends whose cerebral powers were overstrained before a simple, universal and easily applied specific was devised. Being a novel application of an old principle, perhaps some speculative sanitarian can take out letters patent and find his own reward while benefiting others.

In general terms the apparatus may be described as consisting of a hole of any desired dimensions, surrounded with a casing of any impervious material, rigid of flexible, and fitted with a sterilizer at one end and a sucker at the other. It is needless to specify the innumerable forms in which this principle may be applied, but it is evident the lady of fashion may wear her individual drinking conduit as a jeweled hairpin or as a bracelet; the business man may carry his personal aqueduct in the same pocket with his fountain pen; the dude may secure another function for the sapling he uses as a balancing pole when his hair is mussed, and the urchin will not neglect a utensil which can be utilized as a blow-gun.

Moreover, the Board of Education, the Park Commissioners and the railroad companies could, at a trifling expenditure, provide abundant individual conveniences for the improvident and for the strangers within their gates, by supplying quantities of the wax-paper straws commonly seen at soda fountains and other repositories of uncontaminated liquid refreshments.

Another manifestation of sanitary insanity is a folly which amounts to sacrilege. Even the sacramental cup has been accused of conveying infection. Suffice it to say that the accusation is evidently brought by parties having no personal knowledge of the institution. Throughout all the centuries, while millions have obtained comfort and blessing by partaking of the holy communion, there has

never been recorded a single instance of the transmission of infection by the cup of the New Testament. There is absolutely no justification for agitating this matter in our present knowledge.

Apart from these flippant fancies there is abundant food for thought presented in the operations of scientific health precautions under the direct supervision of conscientious and fully qualified sanitary scientists.

There is a risk that what is called scientific medicine may be pushed to the point of scientific fraud and plunder. Public health measures must be not only rational, but humane, or they will fail of support from public sentiment. The advocacy of extreme measures tends to breed indifference rather than rational caution; each unreasonable or too severe health regulation encourages and stimulates the concealment of conditions most dangerous to the community from a health standpoint. In cases of certain contagious diseases a form of quarantine or isolation may be enforced which proves too severe and even oppressive. The rights, family ties and interests should be scrupulously guarded in the enforcement of health regulations. It is not an impossible occurrence, not even an improbable one, that a workingman, one whose family is dependent upon him for support, who has no resources other than his personal labor, may be quarantined, penned in the narrow walls of his home with his poverty, disease and distress, while some loafing ward heeler and political sycophant is liberally paid to guard the doors that bar in its poverty and need. This may happen to many a poor man while the rich and influential walk abroad unhindered. There are no immunities from legal quarantine which the rich should enjoy over the poor.

Our citizens are sufficiently intelligent and alive to the importance of wise health laws and of the value of their efficient local and general administration of the health

of our population to recognize that isolation in many cases of contagion is important, and against it there neither could nor would be complaint. Where this is required of the poor their limited means of subsistence should be carefully considered and destitution guarded against. A humane, scientific and common-sense application of our existing knowledge of the causes of disease as affecting masses of population, this knowledge crystalized into simple health regulations and circulated among rich and poor would distribute knowledge of health conditions and tend to eliminate whatever may be offensive in sanitary administration. To promote public hygiene our sanitary laws must have a wisdom and justice in them appreciable by the masses of population, and their execution must be tempered by a spirit of the highest public good.

There is nothing more offensive to communities than to be brought too rigidly under the ban of law.

Uncleanliness and slovenliness are not habits with our people, therefore our immunity from many filth infections. Yet constant vigilance is required on the part of our health authorities to guard against those nuisances sometimes intentionally, more frequently unintentionally, stored out of sight.

With all the vigilance of our sanitary administration we have not yet reached that ideal cleanliness suggestive of the best hygienic conditions. "The entire number of complaints of nuisances received and entered upon the records was 33,119. This includes complaints received from citizens, nuisances discovered by the house-to-house inspection, nuisances reported by the medical inspectors and those reported by the Bureau of Police."

The annual report of the Board of Health for 1893 made an excellent showing as compared with past years, and we can safely anticipate, from present health conditions, the more efficient dealing with

nuisances and rigid exercise by the authorities of sanitary functions, a better report for the current year, 1894. During the year (1893) the death-rate per thousand was 21.20, or one (1) death to each 47.15 living persons. The Board of Health was fully justified by the facts in making in their report the following statements, which have an interest for the medical profession as well as the general public: "It may be said without contradiction that in no period of the history of this country have the maritime defenses against the introduction of dangerous communicable diseases from abroad been so complete, and the organization of sanitary boards and the efficiency of sanitary work been so wide-extended and so thorough. Not only was the strictest attention bestowed upon cleanliness of the public thoroughfares and places, but extraordinary effort was made to get rid of nuisances upon private premises.

"It is sufficient to say that by the united efforts of the authorities and the people the work of purification constantly progressed, leaving as its reward a condition of health which was a marked improvement over many of the preceding years."

When it is considered that the air we breathe is filled with all the detritus that comes from the wear and constant travel over our old cobble-stone street pavements, all will appreciate the strong language of Mayor Stuart in one of his messages: "Liberal appropriation enabled miles of improved paving to be laid in these small streets, and from the standpoint of practical municipal philanthropy in improving the health and surroundings of the people living in these streets, it is, in my judgment, the most important work accomplished during the whole year. The houses there are as a rule very closely built and the residents compelled by their circumstances to remain there during the heated period. Heretofore it was utterly

impossible with the cobble-stone pavements and their defective drainage to keep them clean enough to even approach a sanitary condition, and besides, it was hardly humane to compel our fellow-creatures to live among such municipal surroundings. In my judgment there has been no money so wisely appropriated, and you could appropriate no amount too large for thus improving the small streets in all sections of the city."

Thus it will be seen that there has been a very general carrying out, as far as means were afforded, of sanitary obligations. So the alarm gentlemen, with their little fads or hobbies, can indulge in their small scientific amusement without startling the world by their discovering some new lurking enemy to human health and happiness, and they may find by-avenues to public notice without exciting more than amusement or ridicule.

ABSTRACTS.

NURSING IN ABDOMINAL OPERATIONS.*

MARIE ERNESTINE WELCH, TACOMA, WASH.

Surgical nursing is divided into two great classes: General surgery, which embraces fractures, amputations, burns, etc., and abdominal surgery—the operations on the abdominal or pelvic organs.

For my subject I shall choose nursing in abdominal surgery.

Under this head many different operations can be performed for which a skilled nurse is required—as removal of uterus and appendages; the uterus itself; the ovaries and Fallopian tubes—all or one—cysts, tumors, appendix, portion of the bowels, spleen, etc.

The kidney is removed sometimes, but usually the incision is made on the side—almost under the arm, a trifle toward the back, instead of in the median line.

Operations on the stomach, gall-bladder, pancreas, etc., are also classed under abdominal section.

The uterus and its appendages are sometimes removed through the vagina; but where adhesions are suspected it may be necessary to open the abdomen.

The duties of the nurse in such a case are a matter of great importance.

She must realize the gravity of the case and must be exceedingly careful that no complications arise through any oversight or neglect on *her* part. She must be gentle and kind, cheerful and sympathetic. While she must do all she can to reassure the patient, she must not be too

confident of success, nor must she fail in carrying out the *minor* details.

Germs invade almost all, if not all, places. If we render everything aseptic—germ-free—then we are sure, if anything should occur, that it was through no fault of ours.

Sometimes, despite all we may do, our patients die; but it is a source of great satisfaction to know we were blameless.

When operations are to be performed the nurse usually presents herself at the appointed place two days before the time fixed for said operation, and not less than twenty-four hours before the time, in order to make the necessary preparations, etc. First she will see the patient and get a full history of the case for the compiling of the chart; take temperature, respiration, pulse and examine the stools and urine carefully. Her data must be exact, and if she notices anything to lead her to suspect kidney trouble, she must immediately inform the physician.

The safest and wisest plan is to send a specimen of the urine and have it analyzed before the operation is done.

The heart and lungs of the patient should also be thoroughly examined before the anæsthetic is administered; and should the physician overlook this in his preoccupation, it is the nurse's duty to call his attention to it.

The preparation of the patient I shall first consider. The physician or surgeon

*From Trained Nurse, October, 1894.

will give the nurse certain directions, which must be carried out *to the letter* and will read something like this: Bathe patient antiseptically; shave the mons veneris and vulva; give vaginal douche and enemas enough to empty the bowels. (A mild purgative also will sometimes be ordered.) Place bichloride pad 1:200 over the field of operation for twenty-four hours preceding operation. Give no food for at least six hours before the operation, etc.

The mons veneris and vulva should be shaved the evening before the operation, and a thorough bath given. Scrub the parts to be operated on and the neighboring vicinity with soap and water applied with a new brush. Next, bathe these parts with ether or alcohol and over them place the pad—a piece of antiseptic gauze wrung out of bichloride solution 1:200. The pad must be large enough to entirely cover the whole abdomen, from the sternum to the pubes bone.

The hair should also be thoroughly washed and dried. The patient is then given the purgative, if one has been ordered, and she is then left to sleep. The next morning, early, the enemas are given. These may be plain warm water, soap-suds, warm water with an ounce of glycerine, or just an ounce of glycerine with enough water added to permit its passage through the syringe. This sort of enema is generally followed by plain warm water after a little time has elapsed.

The vaginal douche is then given, after which the patient rests for a short time, while the nurse proceeds with some preparations in the operating-room. About two hours and a half before the operation the nurse will give the antiseptic bath in sterilized water placed in a sterilized bathtub. Prepare seat of operation the same as before, by bathing off with alcohol or ether and reapplying new pad. This pad must not be removed until the patient is on the table and the surgeon directs its removal.

One hour before the operation the last enema and douche should be given, and the patient is then put into a sterilized bed, after having been dressed and her hair neatly and tightly braided *à la Marguerite*, where she is to remain until ready for anæsthetization. Just before the anæsthetic is administered the nurse should catheterize her and remove false teeth.

The clothing of the patient consists of an undervest, a pair of leggings made of muslin and a short flannel sack or night-dress. The leggings must reach to the hips. These are very nice, as they protect the limbs from cold and exposure. All the clothing of the patient, beds, operating-table, sheets, towels, nurse's clothes, etc., must have been thoroughly sterilized.

A sterilized blanket must be ready to cover the patient, covered by sterilized sheets.

Having now completed the preparations for the patient, we will consider the nurse. She must go to the case in as perfectly a sterilized condition as it is possible to attain, having taken an antiseptic bath, hair having been thoroughly cleansed and all her clothing aseptic.

She should take with her a cookbook, a clinical, room and water thermometer, bed-pan, catheters—glass and soft rubber No. 7—a rectal tube, fountain syringe, ice-cap, hot-water bag, Wilson charts, dressing-pans, two—one for solution, the other for soiled dressings—bichloride tablets $7\frac{1}{2}$ grains, carbolic acid 95 per cent., graduating glass—large—etc.

She must never enter the room in which the operation is to be without she is in a perfectly aseptic condition. She must take especial care of her nails, for they often contain septic material which might be transmitted to the patient.

She must always present a neat, clean appearance and her linen should be immaculate.

We have now reached the stage for preparing the room for the operation. This should have been cleaned and all furniture, carpets, draperies, etc., removed. The room should then be closed, door locked, but before so doing the windows must be thrown wide open, so that plenty of fresh air may fill the room.

It should be left this way for at least from twenty-four to forty-eight hours before preparing the room for the operation.

In selecting the room, be sure of several things. First, that no contagious disease has been in the room at any time. If there has been, it must first be thoroughly disinfected by sulphur. Second, the room must be very light, with abundant ventilation and means of heating if necessary. A room with a southern exposure is considered the best.

The furniture of the room will consist of the following articles: Three small tables, one each for sponges, for dressings and for instruments. A long narrow table is required for the operation, and over this the surgeon sometimes places a frame—to represent a laparotomy table—and by raising this he can put his patient in the Trendelenburg position, lowering the head and raising the knees. By this method the intestines are forced toward the diaphragm and are out of the surgeon's way in operating. A chair, a bench or a table is needed on which solutions can be placed ready for use. The bed for the patient, if she is to occupy this room after the operation is over, must be placed where it will be out of the way during the operation. Besides what has been already mentioned, there must be a wash-stand (with towels for surgeon and assistants to sterilize their hands) and a stool on which a basin containing sterilized water must be placed for surgeon's hands during operation.

These articles, after having been thoroughly cleansed, are brought into the operating-room. The nurse will then proceed to wipe floor, ceiling, walls and every article of clothing with a cloth wrung out of bichloride solution 1:1,000. Each time she leaves the room she will fasten the door so no one can enter.

All china, glass, in fact everything used must be sterilized; therefore boil said articles. Turn bowls, etc., upside down and cover then until ready for use. Two wash-bowls and pitchers are needed—one bowl for surgeon's hands and the other for his assistants. One pitcher will contain boiling water and the other cold sterilized water. If permanganate of potash is used, have some oxalic acid on hand to use for removing the traces of the permanganate.

Three basins should be within easy reach—one for washing sponges if sponges are used, one for the bichloride solution and a third for the sterilized water. The sponges are passed to the assistant after coming out of the sterilized water.

Have a small gasoline stove on hand with pan of hot water ready, so that if any instrument needs sterilizing it can be done at once. Two instrument pans, also one for needles, sutures, etc., are necessary, and an irrigator which will

hold not less than one gallon of solution or sterilized water.

A perineal pad is nice, with the long flap dropped in a bucket to carry off the water, discharges, etc.

Have a good-sized foot bath tub and a couple of slop-jars to empty the soiled water in.

Four dozen towels are usually required, and five sheets will be needed. It is best, however, to have two or three extra ones on hand.

One dozen towels should be ready to be dropped into bichloride solution.

Be sure all the linen has been rendered aseptic.

Now, as to the solutions and smaller articles. Have plenty of water.

The day before the operation the nurse should prepare that which is to be used cold. *Boil* it for one hour, then strain three times through sterilized cloth into sterilized receptacles, and when this is done cover and tie cover down. Do not remove until the water is required for the operation. About five gallons of cold sterilized water will be needed and four gallons of boiling water, which must also be strained.

If solutions are ordered get them ready, label them and color all poisonous solutions. Keep them covered. In fact, cover everything of this kind.

Have soap-dish, Castile soap, two or three small, new nail-brushes, and be sure a thermometer is in the room. The temperature must not be below 80° nor above 90° F. A warm room is necessary on account of shock. Have plenty of hot-water bottles ready for use.

A small tray should be prepared, having on it a hypodermic syringe, nitro-glycerine and strychnine tablets, brandy and distilled water. This tray must be placed so that it can be used at a moment's notice. Just before the patient is anesthetized the nurse may be directed to give her—hypodermically—grs. $\frac{1}{4}$ morphia, atropia 1:200 or a drachm of brandy.

About three nurses are required at the operation. Sometimes a fourth one is asked for. One is needed for the instruments, another for the sponges and a third to wait on the physicians and nurses.

Three physicians are usually present, the operator, his assistant and the anesthetizer. It is better for the nurse in charge of the case to assume charge of the

room and let one of her assistants pass the instruments, for she can then be on the watch constantly to supply anything that may be required.

As she has been there for several hours, she will best understand where things are. Each nurse will pay strict attention to her own part of the work, and if this is observed there will be no confusion.

The nurse who passes the instruments must not touch anything else. She must be surgically clean.

The surgeon will be too much occupied to notice everything, so the nurses must be extremely careful not to touch door-knobs, etc. If it is necessary to do so, the hands must be sterilized immediately.

The patient is usually anesthetized in bed, in another room. One nurse and the anesthetizer will remain with her; the other two will complete the work in the operating-room and wait on the physician.

When everything is ready and the patient is unconscious, she is carried to the table, which has been covered tightly with a blanket and a sheet, said articles being separated by a piece of mackintosh. Over this is placed the perineal pad. The table is placed near the window with the feet of the patient toward the light. If, however, Trendelenburg's position is desired, the head should be toward the window. The operator, the nurse in charge of the instruments and the instrument table are on the right side, the assistant physician, sponge table and the nurse in charge of this table stand on the left side.

The anesthetizer's place is at the head of the patient. He must be supplied with pins, basin and towels, in case the patient should vomit.

The instruments are usually sent in an hour before the operation, and consist of the following: 12 prs. hæm. forceps, 4 prs. scissors, 4 retractors, 2 prs. dressing forceps, 1 pr. volcellum forceps, clamp for broad ligament, 1 groove director, 1 sequester, 2 aneurism needles (straight), 1 scalpel, 1 bistoury, needles, silk and catgut sutures, aspirator and drainage tube. A list must be made of the instruments. These must be boiled for twenty minutes, then lifted out with small pair of forceps and placed in the trays prepared for them, in either carbolized water, alco-

hol, pure or sterilized water. The blades of the scalpels, bistouries or those with sharp surfaces must be wrapped with cotton before they are boiled.

The needles can be put through a piece of gauze and boiled in this way. Silk ligatures and sutures are also boiled. Catgut, however, remains in alcohol.

After the patient is placed on the table the nurse will uncover the abdomen, removing everything but the pad.

The leggings must be pushed out of the way and the undervest and night-dress drawn up. The arms are folded across the chest and the sleeves pinned to the gown. The nurse then covers the limbs of the patient with a blanket wrapped in sterilized sheets.

The operator then removes the pad.

He may wish to have the parts rescrubbed; if so the nurse brings to him a basin containing water, also soap and brush. Should the nurse be directed to perform this part of the work, it must be done thoroughly, wiping off with bichloride solution 1:2,000. Over the abdomen place a piece of oiled silk with a hole cut in the center. This piece should be large enough to reach from the chest to the knees and from one side of the table to the other; then bring the bichloride towels. Wring them out of the 1:2,000 solution and cover the oiled silk with them. The opening in the oiled silk must be large enough to permit of the surgeon having plenty of room to work. This is very nice, as it protects the patient from the dampness and water. The surgeon then commences work. The head nurse must be ready to pass the bichloride towels when they are needed, to keep the irrigator filled with water of the proper temperature, about 100° F., and to change water in the sponge dishes, and, in fact, to carry out any orders.

The first nurse manages the instrument table, thread, needles, etc. The nurse in charge of the sponges must count every sponge and write down the number in use. Every one *must* be accounted for, because if one were left it would cause serious trouble, if not death.

Before the abdomen is stitched she must see that every sponge is in her basin. The first nurse must use the same care in regard to the instruments.

If any parts are to be amputated the nurse in charge of the room will pass a

tray with a towel on it to receive them, and after covering them they will be placed to one side. While the surgeon is closing the wound the nurse will get the dressings for him.

These are always prepared before the operation, wrapped in a towel, to be ready when called for.

These usually consist of a large piece of iodoform or bichloride gauze, some antiseptic powder, combine pads, some absorbent cotton to place over the pads and a many-tailed bandage. After the dressings are all on you can relax your vigilance (to a certain extent) in regard to germs.

The patient is then put in bed on her back with one low pillow, a towel under her head, and a basin and towels ready for emesis. The instruments are scrubbed and scalded, and all the *débris* and unnecessary furniture removed from the room.

The patient must be watched very carefully. Shock may occur; if so, give some slight stimulant and surround her with hot bottles.

Everything must be done to increase the circulation, but if hemorrhage occurs, withdraw the stimulants and place ice on the head. Remove the bottles, too, if they are around the patient.

In either case the first duty of the nurse is to send for the physician.

As soon as the patient's condition is normal after shock, remove the heat and discontinue the stimulants, as you may have the other extreme, fever, if you are not very careful.

Nurse's duties after operation are comparatively light, as all her work is done at the time of the operation.

The patient always gets along well, if her condition is favorable, when all the preparations have been thorough. She needs careful watching for several days and proper nourishment as well. The nurse may be obliged to catheterize her, and also give enemas when the bowels are to be first moved. If the patient be troubled with tympanites, the rectal tube, if introduced, will afford instant relief. Patients, as a rule, will ask for them a second time. They can be left in the rectum for fifteen or thirty minutes several times a day.

It is necessary to keep the patient quiet. If she has to be moved it must be done very carefully or there is danger of strain-

ing the stitches, which may cause them to tear out, besides giving the patient much pain.

The bed should have been so arranged as to permit changes being made without annoying the patient. Everything must be done to make her as comfortable as possible.

She will appreciate these efforts exerted in her behalf, and while at first she may be too sick to say much, she will soon be able to talk, and her first words will be to thank the nurse for her kindness.

No impatience should ever be shown with a patient, for unless one has undergone the same operation she cannot realize how much suffering has to be endured at such times, and when convalescing she will be only too willing to ask pardon for having been so irritable, if such has been the case.

A nurse should conduct herself in such a manner that she will reflect credit on her school and be an honor to her profession.

Her chart must be carefully and neatly kept, food elegantly served, and she should have a note-book at hand in which to enter full notes of her case.

For the first three days the temperature should be taken every four hours; for one week, every six hours; then if the patient is getting along well, twice a day will be sufficient.

The urine must be watched and defecations as well, and their condition reported on the chart, in the note-book and to the physician.

The sick-room must be kept spotless.

The temperature of the room should be kept at about 68° to 70° F. and be thoroughly ventilated.

All sick-room utensils must be kept in another room. The medicines, etc., if kept in the room, must be covered with a napkin. Food must not stand in the room, but must be removed as soon as the patient has taken as much of it as she desires.

When the wound is to be dressed, everything must be in readiness for the physician when he comes, as he should not be kept waiting.

Care must be taken that everything is aseptic. If the abdomen has been closed the dressings well be slight, but if drainage has been used, careful handling will be required for several days.

Finally, all that is done do well.

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

New Sign of Lead-Poisoning.

In eighteen out of twenty persons affected with lead-poisoning M. E. Destree (*Jour. de Med. de Bruxelles*) has observed a narrow zone of hyperesthesia at the level of the articulation of the manubrium with the ensiform cartilage. As a general rule, pressure on the sternum is readily painful only under one or two conditions—namely, when the bone is diseased, as is the case in leucocythemia with lesions of the bone-marrow, or when the thoracic wall and the skin are hyperesthetic, as happens in hysteria, sometimes in neurasthenia, and often in chronic alcoholism. But in these latter cases the hyperesthesia is not found to be so limited in extent as it is in lead-poisoning. Saturnine hyperesthesia is indeed a symptom of nervous origin, comparable to the intercostal neuralgias observed by Rosenthal. "There is nothing astonishing," says the author, "in the fact that the sternal hyperesthesia is so precisely marked, when we remember that Beau has shown that there is never any anesthesia at the level of the scrobiculus cordis in lead-poisoning, and that in lead colic there is a very decided hyperesthesia of the abdominal wall."

A Case of a Child Crying in Utero.

I desire to give a brief report of a case of the crying of a child *in utero*, in so far as I am able to ascertain a rather rare occurrence in obstetrical practice.

On May 16, 1894, I was associated with Dr. Wemple, of this city, in a case of confinement in South San Francisco. The mother had been in labor for some hours, the cervix was well dilated and the breech presenting. The natural forces seemed insufficient to effect delivery, and it was decided to perform extraction. Accordingly the mother was anesthetized, the hand introduced and the foot brought down.

As soon as the foot appeared at the vulva the cry of a child was distinctly heard by all present. The sound was somewhat muffled and seemed as though it came from under the bed. The cry was repeated a number of times, but ceased as soon as the head engaged in the superior strait.

Delivery was effected as rapidly as was consistent with safety to mother and child. The latter was born asphyxiated, but soon revived, breathed and cried again. There was no evidence of liquor amnii or mucus having been drawn into the air-passages. The child is now alive and well.

The explanation of this phenomenon is simple enough, for in the operation of bringing down the foot air entered the uterus and

the child breathed and was so enabled to utter the cries.

In my limited researches on this subject I have been able to find but few such cases reported in medical literature. On February 6, 1894, Dr. Grandin reported a somewhat similar case to the Obstetrical Society of New York. In that case version was performed, but in all other respects the case was similar to the one just reported. In the discussion that followed, four other members each reported a case, and an important feature in these four cases was that in two the child perished during delivery. Dr. Grandin's case, with the discussion, may be found in the April number of the *New York Journal of Gynecology and Obstetrics*.

Another case of this kind was published in May, 1877, in the *Medical Press and Circular*. In this case the vertex presented and the forceps was applied. It is stated that the crying continued until the head was outside the vulva, which seems to me somewhat remarkable, as I scarcely see how the child could cry while the head was passing through the pelvis.

In a medico-legal way this subject may be of some importance, since the fact that a child has breathed, when proved by post-mortem examination of the lungs, is considered proof positive that it had an independent extra-uterine existence. In the two cases that died during delivery this would certainly be an error, for had the lungs been examined evidence of respiration would have been found, and yet both were born dead.—*San Francisco Med. Jour.*

Formulæ for the Antiseptic Treatment of Boils and Carbuncles.

Chloroform	3 j
Essence of cloves	m 75-8v
Creosote	m xv-xxx
Camphorated oil	3 ij

M. For external use only.

Salicylate of mercury	gr. ij-v
Salicylic acid	gr. xv-xxx
Rectified spirit	3 ss-j
Distilled water	ad. 8 iv

M. For external use only.

The affected part is covered with compresses saturated with either of the above antiseptic mixtures. At the same time one or the other of the following solutions is injected into the boil or carbuncle:

Carbolic acid	gr. j-iiij
Salicylate of sodium	gr. xv
Borax	gr. xv-xxx
Glycerine	3 ss-j
Chloroform water	3 ij

F. S. A.

Iodoform	gr. v-viij
Salol	gr. viij-xxv
Carbolic acid	gr. ias
Ether	3 ss-j
Rectified spirit	3 ias-ij

F. S. A.

This treatment is said to give excellent results and to do away with the necessity for a more radical surgical intervention even in cases of carbuncle.—*Dr. E. Gourine in Med. Week.*

Salicylate of Sodium in Headache.

In the February number of the *Practitioner* Lauder Brunton writes an interesting article on headaches, in the course of which he points out that the one very common form of headache commences in this way: The patient sometimes feels a little unwonted irritability at night, but this irritability is not always present. It is very often the precursor of a headache. He wakes in the morning about four, five or six with a feeling of weight in the head, but not a headache. He is very drowsy, disinclined to rise, and is apt to turn over and go to sleep again at once. If he does this he awakes again about seven or eight with a distinct but not a severe headache, usually frontal or temporal. As the day goes on the headache becomes worse and worse, until in the afternoon or evening it becomes almost unbearable. It then finishes up with sickness, after which the patient becomes easier, but feels much exhausted. A headache of this sort may frequently be prevented by the patient taking a mixture of bromide of potassium and salicylate of sodium over night, or by getting up and taking it when he awakes with a heaviness in the early morning, instead of turning over and going to sleep again.—*Northwestern Lancet.*

Potassium Permanganate, the New Antidote to Morphine.

Dr. Graham Chambers (*Canadian Practitioner*) says:

Potassium permanganate in dilute solution, not stronger than one grain to an ounce, may be given by the stomach without danger.

Potassium permanganate, subcutaneously, is poisonous.

Potassium permanganate, grain for grain, completely decomposes morphine, the decomposition occurring in acid media more rapidly than in a neutral medium.

Foodstuffs and acetic acid do not interfere with the decomposition.

Potassium permanganate is an efficient antidote if taken while the morphine is in the stomach.

The question still remains as to whether potassium permanganate is of therapeutic use after the morphine is absorbed into the system. It has been proved conclusively that if morphine is introduced subcutaneously into the system it is excreted into the stomach. Now, the morphine passes from the blood into the stomach by osmosis and by excretion, and, by the principle of osmosis, more morphine will be excreted if it is decomposed as soon as it passes into the stomach. Reasoning on this principle, we would expect that repeated small doses of potassium permanganate by the stomach

would be of use in cases where the morphine has been absorbed into the system. This is rendered more probable by the fact that morphine, as a rule, is a slow-acting poison.

The Properties of a True Antipyretic.

B. W. Richardson (*Asclepiad*) says the substance to be used medicinally for the purpose of reducing temperature must have three qualities: (1) It must be antiseptic; (2) it must be volatile; (3) it must have the slightest solubility in blood. If it be not antiseptic it is negative in its action as a suppressor of heat. If it be not volatile it accumulates in the blood and tissues, acts then as a foreign body toxic in its nature, and itself causes secondary symptoms which are mischievous and unnecessary, taxing active eliminative organs, like the kidneys, to an undue degree. If it be very soluble in the blood and in the fluids of the tissues, it is the more objectionable on account of its fixation and slow elimination. The value of ammonia as a medicine rests largely on its possession of the three qualities that have been enumerated. It is a splendid antiseptic and it is volatile, but it is too soluble and too powerful a solvent. Given in sufficient doses to check the animal fire, it dissolves the red corpuscles, prevents the free absorption of oxygen from that effect, and by its presence in the blood also tends to prevent oxidation. Chloroform is a splendid antiseptic; it is volatile and, feebly soluble in blood, it does not produce any fixed toxic symptoms nor tax the eliminative organs unless it be pushed to anesthesia. The author has used it for over forty years as an antipyretic, and with much satisfaction, but the difficulties of its correct administration have stood much in the way. Hydrate of chloral is more manageable. It is an antiseptic; it turns into chloroform and sodium formate in the body, so that it is both volatile and eliminative, and unless it is pushed too far it is not toxic. In his first observations made on it, immediately after Liebreich's discovery of its narcotic effects, Richardson discovered its remarkable power of reducing animal temperature, and pointed out that when it kills by a large dose the mode of death is by reduction of the body temperature. Since then he has employed it regularly as an antipyretic, and the results he has witnessed from its use surpass all others. "It is without doubt," concludes the author, "when correctly administered, an admirable remedy for pyrexia, and in enteric fever it is, I believe, the best."—*Brit. Med. Jour.*

Vaccination.

Before the introduction of vaccination the mortality in Austria from small-pox was 62 per 100,000; in Prussia, 49. Since the introduction of vaccination the mortality has been 2 cases in 700,000. In Germany were revaccination is compulsory, the death-rate is 1 patient in every 1,200,000.

Rest in Heart Affections.

Lauder Brunton, the eminent English therapist, recommends absolute rest in cases of advanced mitral disease. Rest enables the circulation to recover its balance, the excessive accumulation of blood in the veins giving place to the proper distribution of the blood between the brain and the arteries; the dropsical effusion and general venous engorgement of the various organs, including the viscera, thus disappears. The change from absolute rest in a horizontal position to the vertical position, with gentle exercise, must be very gradual indeed. Massage and manual Swedish movements are of the greatest value in making the transition, and also in aiding the re-establishment of the normal circulation. The timely enforcement of rest in cases of this sort may save the beginning of the valvular malady of the heart, and thus by judicious management restore the patient to a condition of comparative health and comfort. We have found hot and cold sponging of the surface of the body of great value in the restoration of the normal balance of the circulation.

Dr. Brunton very properly calls attention to the danger of enforcing the rest cure too vigorously in cases of anæmic girls who, by too prolonged rest, are likely to fall into a state of exhaustion in which the heart will receive greater injury than from gentle exercise.—*Mod. Med.*

Early Diagnosis of Phthisis.

Bernheim, of Paris, presented at the congress at Rome (*Bull. Med.*) a paper in which he called attention to the importance of examination of the spleen and the lymphatic glands in cases of suspected tuberculosis. According to this observer, the spleen is always enlarged in cases of tuberculosis, even in the early stages of the disease. This is a new diagnostic point in tuberculosis, and one which should be carefully studied. As a bacteriological test it is exceedingly valuable in advanced cases, and is also applicable when the disease is in an incipient stage.—*Mod. Med.*

Digestibility of Sterilized Milk.

Bendix (*Jahrbuch für Kinderheilkunde*, Vol. xxxviii, Part iv) has made researches upon sound and sick children as to the digestibility of both sterilized and non-sterilized milk. He concludes:

1. That in healthy children there is no difference as to the digestibility of the two milks.
2. In sick children the sterilized is digested just as well as the unsterilized, notwithstanding the fact that the absorption of fat and nitrogen is so much reduced in such children.
3. The taste and smell of milk, while they may be changed by sterilization, are not materially so, and sterilized milk is readily taken by children.
4. He has never seen the health of children badly affected by the use of sterilized milk.

On the other hand, they eat well, grow, and their stools are normal, and they never have vomiting.

5. The transmission of severe diseases from animals to men is prevented by the sterilization of milk.

6. Sterilization is much preferable to Pasterization, and heating the milk to 212° F., while it does not hinder its digestion, absolutely kills all bacteria and spores.

Periods of Isolation for Contagious Diseases of Childhood.

In the course of a report on this subject Olliver (*Gaz. Med. de Strasburg*) makes the following rules:

For scarlatina, variola, varioloid and diphtheria, the period of isolation, before the child is allowed to return to school, should be forty days, counting from the first day of invasion.

For measles and varicella, sixteen days will be sufficient.

For pertussis, isolation should be prolonged to three weeks after complete cessation of the characteristic kinks.

For mumps, ten days after the disappearance of the local symptoms.

Nasal, buccal and pharyngeal irrigations with antiseptic solutions should be employed, and soap bath and rubbing of the entire surface and scalp should be a necessary preparation before returning to school.—*Amer. Jour. of the Med. Sci.*

Pilocarpin in Diphtheria.

At the seventh general meeting of Polish physicians and naturalists at Lvov, Dr. Kowalski read a paper (*Medycyna*) wherein he recommends pilocarpin as the best remedy for diphtheria (which method he applied in 132 cases during the last fourteen years). The following formula is used by the author:

Pilocarpin muriatic.....	0.05 gram
Brandy.....	20 grams
Aqua.....	60 grams

M. D. S. A teaspoonful every two hours.

As adjuvants he prescribes: *a*, inhalations of a from 0.1 to 0.15 per mille solution of corrosive sublimate, to repeat every two or three hours; *b*, painting the throat with a 5 per cent. solution of carbolic acid, to repeat as frequently; *c*, wine in largish quantities; *d*, strengthening dietary.

Dr. Kowalski feels inclined to attribute the beneficial effects of pilocarpin to its inducing leucocytosis in diphtherial patients, which hypothesis seems to find some support in the results of the following experiments: He took eight healthy white rabbits (of equal weight) and inoculated them with equal amount (five divisions of a Pravaz syringe) of pure glycerine broth culture of diphtheria microbes, after which four of the animals received each a hypodermic injection of 0.003 gram of hydrochlorate of pilocarpin, while the other four remained without the injection. It proved that in the former group there developed a distinct leucocytosis (from 12,000 to 20,000 leucocytes to 1 cub. mille of

blood), while in the control animals the proportion did not show any deviation from the standard.—*St. Louis Med. and Surg. Journal.*

Treatment of Insomnia.

The multiplication of sleep-producing drugs shows that the manufacturing pharmacists are trying to supply a demand made by physicians and a high-strung public. It is so much easier to give or take some pleasant hypnotic than it is to use natural methods that the latter course has been very much neglected.

At the Cumberland meeting of the State Society, Dr. E. N. Brush advocated the use of the common-sense methods and opposed the use of these drugs. Physical and nervous exhaustion are too common among the American people, and too many have learned or have been taught that such drugs as produce sleep are harmless, and resort to them without the physician's advice and too often with his advice. In the place of these Dr. Brush advocated attention to the skin, massage, baths and the use of easily digestible and nourishing food.

One method of producing sleep and quieting excitement which was not mentioned was the modern novel. Diversion is the principle of many forms of treatment, and if by a good, harmless, but interesting novel the attention can be distracted, the good is incalculable. Those who do not feel like reading may have a good reader, which at the present day is scarce enough. Indeed, in some forms of illness a good story-teller is a very good prescription. As Dr. Brush has said, natural methods are too often neglected. This is because they are sometimes more trouble than the mere swallowing of some small dose, or they are so simple that the patient can understand them. Familiarity belittles almost anything, and advice without a prescription in the present day is too often considered worthless by those who love to be dosed. Some humorous writer has collected the numerous remedies recommended by friends and others for sleeplessness, and they are varied and contradictory.

These natural methods are important and should never be neglected, even if some harmless prescription or placebo has to be given at the same time.—*Maryland Med. Jour.*

Papain for Tapeworm.

Roberts Bartholow (*Med. News*) reports a case in which, after failure of the usual remedies for tapeworm, a parasite twenty-five feet in length became dislodged and was passed after the use of papain, in ten-grain doses, three times a day after meals. The worm had not undergone solution, but Bartholow thinks the drug had exerted a toxic influence upon it.

Use and Misuse of Bicarbonate of Soda.

Dr. Rosenbach (*Cent. f. d. Med.*) claims that the bicarbonate of soda is prescribed by far too often to neutralize excess of acid in

the stomach. It is, except in extreme cases, difficult to determine whether the excess of acid is abnormal. To determine whether the excess of acid is the real cause of stomacheal disturbances, a careful consideration of the patient's occupation, his general condition, feces, nutrition, the consistence of the stool, etc., is necessary. In too rapid eating there is prone to be a faulty relation of motor functionality and production of acid. Formation of organic acids—fatty or lactic acid—may be a cause. Thirdly and most frequently, the dyspepsia is due to pure hyperesthesia of the organ. On account of its sedative action the bicarbonate is often misused and in too large doses; not more than a good-sized pinch should be taken at one time. Frequently a piece of dry bread or biscuit will suffice to absorb the excessive acid.

Phenacetine for Enuresis.

Holladay (*Va. Med. Monthly*) has found this drug excellent in cases of enuresis in children, five grains at bedtime, and in the troublesome, too frequent micturition where there is enlarged prostate, especially where cystitis is present, the urine being made acid. In such cases he gives a large dose, as much as twenty grains, at bedtime, with the happy result that the patient sleeps better and does not have to arise so often during the night. He has never had any bad effects that could be ascribed to the drug, and thinks, from all the reports of it that are noticed and from his own experience, that it is the safest of the coal-tar antifebrile products that are at present in use.

For Continued Syphilis.

Dr. Joseph Jones (*Louisville Med. Monthly*) gives the following formula:

Red iodide of mercury.....	grs. iv
Iodide of potassium.....	5 iv
Tincture of iodine.....	5 ij
Distilled water.....	q. s. ad 3 viij

Sig.: A teaspoonful in a wineglass of water three times a day, one hour after each meal.

Cascara in Rheumatism.

In the *Louisville Medical Monthly* Dr. Cannon reports sixteen cases of rheumatism treated by fluid cascara sagrada aromatic in teaspoonful doses every three hours until the bowels moved freely, then fifteen drops every two hours. All recovered in a few days, and he declares: "Any one who tries this remedy in rheumatism cannot help but be satisfied with the quick results obtained."

Old Age and the Death-Rate.

Only 906 persons in a million die from senility, while 1,200 succumb to gout, 18,400 to measles, 27,000 to apoplexy, 7,000 to erysipelas, 7,500 to consumption, 48,000 to scarlet fever, 25,000 to whooping-cough, 30,000 to typhoid and typhus and 7,000 to rheumatism. The averages vary according to locality, but these are deemed pretty accurate as regards the population of the globe as a whole.—*Med. Age.*

SURGERY.

The Janet Method in Urethritis.

The pathogenesis of the gonococcus has been fully established, but as yet all specific remedies recommended for gonorrhoea have proved futile. The best treatment now, as before, is the prophylactic. Ricord's observation, "Une chaude pisse commence, Dieu le sait, quand elle finira," is equally applicable at the present day, notwithstanding the progress made in the pathology of gonorrhoea. At the genito-urinary clinic of Posner a routine treatment for gonorrhoea is the Janet method, which consists of irrigating the anterior urethra (in anterior urethritis) with many liters of a solution of permanganate of potash (1:100). The strength of the solution is gradually increased until a strength of 1 to 1,000 is reached. The solution is preferably warmed before being introduced. A simple contrivance enables the solution to escape continually after it has fully passed through the course of the anterior urethra. In the beginning it is advisable to irrigate twice daily, and as the strength of the solution is increased, once daily is considered sufficient. Janet's has yielded the better results at this clinic than all other methods of treatment. In urethritis posterior a catheter is carried beyond the compressor urethra, so that the solution may reach the posterior urethra.—*Occidental Med. Times*.

Deaths from Cycling.

In a recent session of the Paris Academy of Medicine, Petit reported three deaths occurring suddenly during the use of the bicycle. The first case was that of a man sixty-five years of age who had begun to ride four weeks previously. He died in the arms of his teacher as he was about to get off his wheel. The second case was that of a physician, aged forty-eight years, who for the sake of reducing a corpulence which had come on after typhoid fever took to cycling. Without previously having complained of heart symptoms he was one day, while on his wheel, suddenly taken with dyspnoea and a severe pain in the heart region. He stopped, sat down on a bench and died in a few moments. The third case was that of an athlete, aged forty years, who died suddenly on the street while cycling.—*Deutsche med. Woch.*

Technique of Making Urethral Injections.

Guiard (*Annales des Maladies des Organes Genito-Urinaire*) gives the results of his investigations concerning the urethra and its medication. The capacity of the urethra had been stated by Jarnin and Leprevoet to be from 5 to 8 grams, therefore it was held that a urethral syringe should not hold more than 5 or 6 grams, equal to about 1½ drams. Later it was shown that posterior urethritis, particularly late in the disease, was far more frequent than formerly supposed. The author by experimenting on the living subject

found that the urethra would always hold 8 to 10 grams (2 to 2½ fluid drams), and more often 12 to 15 grams, and sometimes 16 to 17. As the patient could tell when the sphincter was forced, this was avoided. These deep injections are only called for when definite symptoms have already demonstrated that the posterior region of the urethra is already affected.

In order to administer these deep injections, the author uses a syringe of 20 grams (5 drams) capacity. When it is desired to overcome the sphincter gentle pressure is made, when the liquid will enter. In an experience of ten years he has never had any accidents, and only encountered one case in which the sphincter would not relax. It is better to give the injections when the patient is lying down than when he is standing up. The requirements of an effective injection is that it shall reach all the diseased parts. To do this a syringe of 20 grams (5 fluid drams) capacity should be used, and the injection of its entire contents, if carefully done, is easy and causes no inconvenience.

BACTERIOLOGY.

Green Pus and the Bacillus Pyocyanus.

Schimmelbusch (*Cent. f. Gyn.*) writes regarding the pathological significance of green pus and the bacillus pyocyanus. Green and blue pus is the result of the bacillus pyocyanus. Through its growth in the secretion of a wound it causes a green coloring matter—pyocyanin—and a characteristic sweetish, musty odor, which may be slight or most offensive. This bacillus produces not only green and blue coloring matter, but also, as may be seen in a single wound, yellow and brown. The richest shade or shades of these four colors may be seen. The amount of irritation produced in a wound depends upon the amount of air present—i.e., oxygen—whether there is a favorable culture medium for the bacillus and the conditions or quality of the bacillus itself. He then answers the interesting question why this bacillus appears in clinics and hospitals and why it always appears in wounds. The wound is not infected through the atmosphere or dressings or by the hands and instruments of the physician, but the bacillus is normally found on the skin as a saprophyte. It has a predilection for particular parts of the body, as the axilla, inguinal regions, anus, etc., and therefore most frequently infects wounds near these parts. Is the bacillus pyocyanus pathogenic? From experimentation upon animals and as far as observation upon man has gone, this organism is locally and generally virulent, but the virulence depends upon the character of invasion.

The Bacillus.

He that despiseth small things shall fall by little and little.—*Loj the bacillus.*

The bacillus is paradox itself: it is at one and the same time the weakest, minutest and

yet the mightiest of created beings. Individually he is the sixteen-millionth part of weakness and nothingness; collectively he is the consummation of destructive power. All life succumbs to him. The bacillus was born nobody knows how nor when, but it is evident that he did not "die a-bornin'," nor could he help his birth; but that he was born before man his vegetable origin testifies. He was born educated and needs no training. He labors every part of every second in the day and knows not how to neglect a duty. He is neither Republican, Democrat nor Populist, but a simon-pure nihilist. All things have an end except the bacillus, and he has two ends, and each end makes two more ends; each end and every other part of him is productive. A single bacillus in a single day will have 16,000,000 descendants, and each descendant proceeds with due order and regularity to beget 16,000,000 more, so that 16,000,000 multiplied by 16,000,000 every hour in the day will barely give a commensurate idea of his productive powers. The bacillus in breeding is a good deal like the negro's conception of a mule kicking, that is, "mule don't kick accordin' to no rule;" the bacillus multiplies according to no rule, but that he is the greatest multiplier in the world no man can doubt. Arithmetic don't contain enough numbers to outcount him. His relationship is extensive; he is at the same time father and mother, sister, brother, uncle, aunt, cousins, grandfather and grandmother. It has never been determined whether he is his own mother-in-law or not. He is noble by birth and surroundings, and only lives on highly organized bodies. He feeds upon emperors, czars, kings, princes, even politicians and all living kind. His residence is the grandest product of God; crude substances will not catch him. He requires fresh air at one time, at another not, but always moisture; he stands temperature well, thrives between 86° and 104° F.; but when it comes to cold he can give the famous brass monkey a thousand points and discount him. You may freeze him 200° below zero and he will only hibernate; he is like the grain of corn wrapped up with the body of a mummy for several hundred years, dormant and unproductive—he only needs heat, light and moisture to fill him with active vigor. You can find him only where there is plenty of company; he abhors a desert, detests the open sea, altitude gives him a weak heart, hence he is never found on high mountains. He is found in earth, air and water, and like a good Christian cannot thrive in hades. He is distributed universally, individually and collec-

tively; killed by the sigh of a flea, he himself kills the strongest product of God. He is more destructive to human life than wars, famine, floods, earthquakes, railway trains and threshing-machines multiplied many times over. He is greater than the greatest because he has affected and controlled all generations of animal life; his activity is boundless, his value is known only to God, his capacity for evil has never been computed. One of his species alone (the tubercle bacillus) kills 142,857 persons out of every million dying from all causes, not to mention the hundreds of thousands of deaths produced by his near relatives. For man a word is sufficient, but the bacillus wants the earth; not only man but all animal life is demanded; man's creation was the bacillus' opportunity and he embraced it. He is a rod and comes very near being the chastening rod of God.

He is the idol of death, the boon companion of misery.

He is the mighty, dire remorseless, unceasing and hideous Nemesis of man's ignorance.

Ay, a mighty remorseless curse on man then was hurled—

A hideous horror, killing scourge, Death's enigma to the world.

—*Railway Surgeon.*

ARMY AND NAVY.

CHANGES IN THE U. S. ARMY FROM DECEMBER 16, 1894, TO DECEMBER 22, 1894.

Leave of absence for one month is granted First Lieutenant A. N. Stark, Assistant Surgeon, to take effect upon his return to Fort Sam Houston, Texas.

Captain James D. Glennan, Assistant Surgeon, is relieved from duty at Fort Sill, Oklahoma Territory, and ordered to Fort Snelling Minnesota, for duty at that post.

Captain Edward R. Morris, Assistant Surgeon, on the arrival of Captain Paul Clendenin, Assistant Surgeon, at Fort Warren, Massachusetts, will be relieved from duty at that post and will report for duty at Fort Spokane, Washington.

PROMOTIONS.

To be Assistant Surgeons with the rank of Captain, after five years' service, in conformity with act of June 23, 1874: First Lieutenant Charles Willcox, Assistant Surgeon, October 29, 1894; First Lieutenant Harlan E. McVay, Assistant Surgeon, October 29, 1894; First Lieutenant Euclid B. Frick, Assistant Surgeon, October 29, 1894.